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PUBLISHED BY THE

SOCIETY OF ANTIQUARIES OF LONDON

VOLUME LXXXIX

(SECOND SERIES, VOLUME XXXIX)

PRINTED AT OXFORD
BY JOHN JOHNSON FOR
THE SOCIETY OF ANTIQUARIES
AND SOLD AT THE SOCIETY'S APARTMENTS IN BURLINGTON HOUSE, LONDON
M CM XLIII

PRINTED IN GREAT BRITAIN

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I.—*Armorials upon English Seals from the Twelfth to the Sixteenth Centuries*

By C. H. HUNTER BLAIR, *Esq.*, M.A., F.S.A.

THE purpose of this paper is to discuss and illustrate the development of shields of arms and their accessories upon the seals of English men and women from the simple devices of the later twelfth century to the complicated armorials and complete achievements of later times. The great seal of William the Norman, like that of Edward the Confessor, had two sides. On one William was shown seated in majesty as king of the English; on the other, unlike Edward, he appeared fully armed upon horseback as duke of the Normans. This equestrian representation of a knight fully equipped with the arms and armour of his time was the type of seal adopted by the greater barons in the early twelfth century. It was upon the shields borne by these horsemen that armorial charges first appear. Part I of this paper deals with this equestrian type.

In the early thirteenth century some of the greater barons, possibly imitating the royal great seals, used a two-faced type which, while remaining equestrian on the obverse, displayed a shield of arms on the reverse. This style continued upon some official seals and upon those of certain people of importance until the end of the period. About the same date, upon the majority of seals, the figure of the mounted knight was replaced by a shield of arms which belonged to and was identified with its owner and his family. These armorial seals and their later accessories are discussed in the second part of this paper.

The third part deals with the seals of women, which, beginning like those of men with a picture of themselves, soon developed into an armorial type: one of 'infinite variety' and often of much beauty.

I. EQUESTRIAN

1. *The Shield.* The earliest seals represented their owners in the armour of the period with their shields carried at right angles to their bodies, the insides only being visible. There is therefore no evidence to show whether or not any devices were upon these shields.[1] They were long and rather narrow in shape, tapering nearly to a point in base, their upper edge rounded, and are usually known as *kite-shaped* (pl. 1, *a*, *b*, *c*). These continued until towards the middle of the twelfth century when the shape and method of carrying the shield changed, and the

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[1] The same type of shield embroidered upon the Bayeux tapestry bore various devices (*Tapisserie de la Reine Mathilde*, Bayeux, n.d.). It will be seen that the pennon of three tails upon earl David's spear has a device embroidered upon it (pl. 1, *a*); see Wagner's *Heralds and Heraldry*, p. 17.

outer side of a convex shield, with a plain surface, was presented to view[1] (pl. I, *h*). A central boss, as on the reverse of the seal of Alan III earl of Richmond (pl. I, *d*) appeared shortly thereafter; an example of rather later date was upon the seal of Osmund son of Hamo (pl. I, *g*). About the same date designs or devices appeared upon the shields of these horsemen; these were possibly constructional and they may have been coloured. Some had a plain border as seen on the seal of earl Conan (pl. II, *a*); on the reverse, wielding a sword, he still carried the earlier kite-shaped shield. A checky border was on the shield of Waldeve the earl[2] (pl. II, *b*) and later in the century shields were charged with bars radiating from a central boss (pl. II, *d*) sometimes within a border (pl. II, *e*) or a cross interlaced with a saltire also in a border (pl. II, *c*). At the same mid-twelfth-century date the arms and armour of certain knights were completely covered with an ornamental design, such as the fleurs-de-lis which adorned the shield, skirts, saddle-cloth, and helm of Roger Mowbray (pl. II, *f*) or the checky pattern upon those of Waleran of Beaumont, count of Meulan and lord of Worcester,[3] as illustrated in fig. 1 from a drawing in vol. ii of the *Archaeological Journal.* It is not necessary to inquire whether these early devices were the origin of armorial charges; in some cases they were. The seal of Gilbert son of Gilbert, earl of Pembroke (1138–48) is known from a drawing of it in Bysshe's

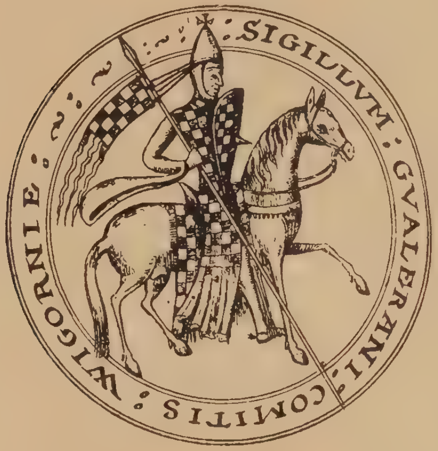

Fig. 1. Waleran, count of Meulan

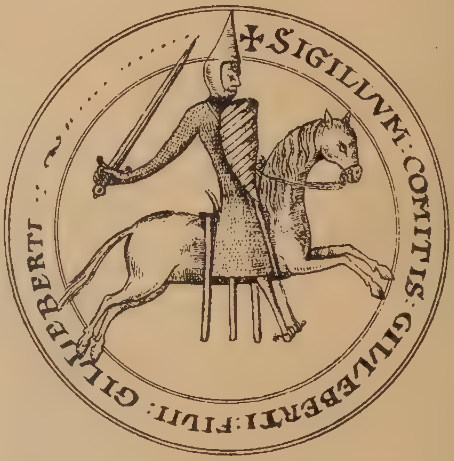
SIGILLVM : COMITIS : GILLEBERTI : FILII : GILLEBERTI

Fig. 2. Gilbert son of Gilbert, earl of Pembroke

edition of Nicholas Upton's *Notes upon John of Guildford.*[1] The obverse of this seal was equestrian (fig. 2), the shield, covered with chevrons, being in heraldic terms *chevronny.* Upton calls it *scutum capreolis plenum.* A seal of Gilbert son of Richard of Clare, earl of Hertford (1138–52), nephew of the above Gilbert, earl of Pembroke, is preserved in the Public Record Office. It is of the one-faced equestrian type the shield bearing six chevrons (pl. II, *g*). Both these seals date between the years 1138 and 1146 and both bear the device which later became the well-known shield of Clare—*gold three chevrons gules.*[2] The armorial charge of three chevrons appeared upon the seal of Richard son of Gilbert of Clare—called Strongbow—second earl of Pembroke (1148–76). It is known from a drawing of it, made in 1631, in MS. Harleian, 5816, fo. 36*b*; this was copied by J. C. Brooke, Somerset Herald (1773-94), and published in vol. x, p. 269, of the *Journal of the British Archaeological Association* (fig. 3). It is attached to a charter dated *c.* 1170.[3] If this drawing is correct, and the copier has not mistaken chevronny for three chevrons, then Strongbow was the first of his family to use the heraldic charge of three chevrons. There does, however, remain some doubt about this seal, but fortunately there is none about another seal, of an equally early date, bearing a definite armorial charge. It is that of William fitz Empress, second son of Geoffrey of Anjou and his wife the Empress Maud, and younger brother of Henry II.[4] This seal (pl. II, *i*, and fig. 4) dates between 1156 and William's death in 1163. It is equestrian in style, the horseman

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[1] The obverse of pl. I, *j*, representing earl Geoffrey with spear shows a shield concave to his body. The reverse (*j*) shows the inside of the shield which is longer than usual and ends in a point beneath the horse. It has also the straighter top with rounded corners of its later date.

[2] He was son of Gospatric (III) and earl of Lothian, seal is *c.* 1165; he died 1182.

[3] Probably the origin of the checky gold and azure shield of the family of Warenne earls of Surrey (A. R. Wagner, *Historic Heraldry of Britain*, p. 46).

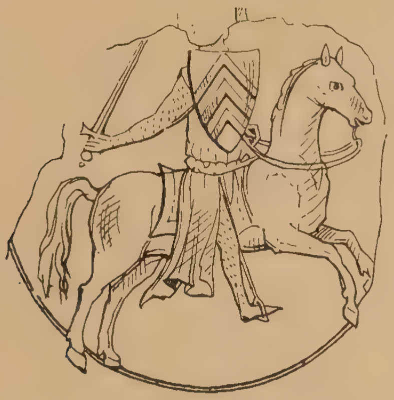
Fig. 3. Richard son of Gilbert of Clare, earl of Pembroke

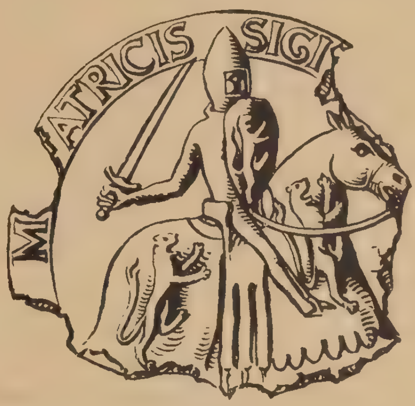

Fig. 4. William fitz Empress

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[1] London, 1654, p. 89.

[2] *Archaeological Journal*, ii, 43-8.

[3] Since this paper was written an impression of another seal of Strongbow has been found and published by Mr. A. R. Wagner in *The Antiquaries Journal*, vol. xxi, pp. 128 ff.

[4] *Catalogue Heralds' Commemorative Exhibition, 1484–1934*, p. 69, London, 1936; also A. R. Wagner, *Historic Heraldry of Britain*, 1939. I am indebted to Mr. Wagner for telling me of this important seal and for allowing me to reproduce his drawing of it here.

carries a shield, concave to his body and with a rounded top, charged with a lion rampant like that borne upon the first seal of Richard I. It is the first known armorial seal of the English royal house and one of the earliest bearing an heraldic charge. It would therefore appear that armorials upon seals began to be used in the reign of Stephen (1135–54), about the middle of the twelfth century. An example of a little later date (*c.* 1180) is the lion rampant upon the seal of William d'Aubigny, earl of Arundel (pl. III, *a*) dating about 1180 and upon that of Roger d'Abernon of like date (pl. I, *i*). The roundels upon a border on the seal of William of Humez are rather later, probably about 1185 (pl. II, *h*). Armorial shields upon seals became more numerous in the last decade of the century (pl. III, *c–e*, *h*), and by the beginning of the thirteenth century their use, at least by the higher nobility, was general. The shape remained convex with rounded tops (pl. III, *d*, *e*). After the first quarter of the century their upper edge was straightened, with the top corners either angular or only slightly rounded, a change coincident with a more lifelike presentation of the knight and his horse (pl. III, *f–h*). The seals of this date often had an armorial counterseal or reverse; sometimes this was the full size of the equestrian obverse as on the seal of earl Warenne (pl. III, *d*; pl. VI, *h*) or it was a small armorial *secretum*, as used by Gilbert of Clare, earl of Hertford and Gloucester (pl. VI, h^a), the obverse of whose seal is almost destroyed and cannot, therefore, be illustrated.

Heavy convex shields ceased to appear towards the end of the thirteenth century; they then gave place to smaller shields with straight tops and slightly rounded sides of the form known as *heater-shaped* (pl. IV, *j*, *k*, *l*). This was the typical shield of the fourteenth and fifteenth centuries, except when quartered arms were displayed, when the sides became straighter and the base broader (pl. V, *d*, *e*). In the fifteenth century they were sometimes slightly concave (pl. V, *d*, *e*). The decorative so-called *Gothic*-shaped shields of the same century can be better seen upon the seals of the armorial type to be considered later in this paper (pl. VIII, *e*, *f*, *k*).

2. *Surcoats.* Armour was uncovered upon early twelfth-century and some later seals (pls. I, *a–d*; II, *a–d*; III, *a–c*) though sometimes the long ends of the garment worn beneath it appeared floating below the horse (pls. I, *g*, *i*, *j*; II, *b*, *e*, *h*; III, *a*). Thirteenth-century seals showed a loose-fitting linen surcoat above the owner's body armour. It was worn girt by a belt about the waist and, dividing above the knee, left the arms and lower legs uncovered (pls. III, *d*, *f*, *g*; IV, *a–j*). These surcoats were not armorial, probably because the material was not suitable. The seal of Robert Bruce, king of Scots, used after 1318, does, however, present a surcoat of similar style embroidered with the royal arms of Scotland (pl. V, *a*). These gave place, about the middle of the fourteenth century, to a tight-fitting

sleeveless garment called a *jupon*, which covered the body to about mid-thigh. This was made of a rich padded material embroidered with the wearer's armorials (pls. IV, *k*, *l*; V, *b*, *c*, *f*). In the fifteenth century a similar garment, with wide hanging sleeves, slashed and dagged at the edges, was worn (pl. V, *d*, *e*). In the late fifteenth and in the sixteenth centuries armour was again shown without covering (pl. V, *g*, *i*).

3. *Horse-trappers.* The seal of Simon of St. Liz II (pl. III, *b*), earl of Northampton and Huntingdon (*c.* 1136–53), attached to a charter dated about the year 1147, represented his horse covered with a long caparison having a dagged lower edge; it is not in good condition but does not appear to have any device upon it. The seal of William fitz Empress referred to above (pl. II, *i*) depicts the horse wearing a similar heavy caparison with like dagged lower edges but it bore upon both fore- and hind-quarters the armorial charge of a lion rampant, as on the shield. It is therefore the earliest known seal with arms upon a horse-trapper. The horse on the equestrian seal of Baldwin Wake (1177–89) also had a heavy caparison with scalloped edges (*Northants. Records*, iv, pl. 36). These examples are, however, exceptional, as during the greater part of the twelfth century horses were shown without covering, though their reins, harness, and saddle-cloths were often richly ornamented (pls. I, *g*; II, *a*; III, *c*, *f*, *h*). Armorial horse-trappers came into more general use early in the thirteenth century (pl. III, *e*), but it was nearly the middle of that century before they became habitual. They were then apparently made of stiff material (pls. III, *g*; IV, *a–c*) usually covered with their owner's arms but sometimes, when the armorials were not such as to allow this, the background was embroidered with fine scroll-work (pl. IV, *g*). By the end of the century these trappings had become less formal and more ample, flowing in sweeping folds beneath the horses (pl. IV, *d*, *f*, *k*); later they became very voluminous, flying tempestuously behind and below them (pl. V, *b–e*). In the sixteenth century they remained armorial but of a heavy, clumsy shape, comparing ill with the more graceful style of earlier examples (pl. V, *g*). In later times they formed a stiff caparison, not always armorial, but on one seventeenth-century example (pl. V, *i*) the owner's arms adorned the horse's hind-quarters whilst his coroneted crest appeared on its fore-quarters; a great bush of feathers decorated his own helmet. Another was of ermine with an ornamental border, the horse's neck being in plate with a fine plume of feathers on his head (pl. XIV, *f*).

4. *Crests and Mantling.* At the end of the thirteenth century cylindrical helms were replaced by those of a more conical shape, which bore upon their apex fan-shaped ornaments (pl. IV, *d*, *f*, *g*), sometimes with two ends of a silken scarf, called a *lambrequin*, flying behind (pl. IV, *f*, *h*, *i*, *j*). Contemporary with these a monster of dragon or wyvern type was sometimes used (pls. IV, *h*; XI, *e*) and

even appeared upon a helm of the early cylindrical type (pl. VII, *f*). A more fully developed crest of this early date was upon the seal of Sir John of St. John, upon whose helm a lion passant stood between two palm branches (pl. IV, *i*). In all these examples the same devices adorned the horses' heads; a short-lived fashion, though it reappeared in later centuries when plumes of feathers formed the crests of both riders and horses (pls. V, *g*, *i*; XIV, *f*). By the mid-fourteenth century, crests had become a recognized part of a knight's equipment; they were fixed to the helms either by a twisted wreath of silk (pl. XI, *g*) or surrounded by a crest coronet (pls. IV, *l*; XI, *h*) or stood upon a cap of maintenance (pl. XI, *l*).

The seals of the bishops of Durham, as lords palatine, illustrated on their equestrian obverses the decorative use of crests at that time. John Fordham's mantled helm (pl. V, *b*) was surmounted by a coroneted mitre on whose horns a dove, about to rise, was perched; whilst a great bush of feathers arose from Langley's (pl. V, *c*) coroneted helm.

Mantling, properly so called, succeeded the earlier *lambrequin* in the mid-fourteenth century as a close-fitting cover protecting the back of the helm (pl. IV, *l*); later it assumed a more decorative style with dagged edges ending in a tassel (pl. V, *b*, *c*) and finally, before ceasing entirely to be used (pl. V, *d*, *g*, *i*), it took the form of slashed ribbons, flying behind the helm (pl. V, *e*). Both crests and mantling formed a very important part of an armorial seal and will be more fully discussed later (p. 16).

The background of these equestrian figures was usually left plain, but the thirteenth-century seal of Robert Lord Fitzwalter was an exception (pl. IV, *e*); his horse galloped over a wyvern with a shield of the arms of Ferrers in front of it. In the late fourteenth century small charges, from the shields of their owners, were sometimes powdered over the field, such as the small crosses on the seal of bishop Fordham (pl. V, *b*) or the molets upon that of bishop Langley (pl. V, *c*). In the fifteenth century the horses galloped over fields of grass and flowers and the background was filled with twining foliage (pl. V, *d*, *e*). Later a plain background returned, though the grass beneath the horses remained (pl. V, *g*, *i*).

Equestrian seals were usually of considerable size varying from 70 to 80 mm. in diameter, but occasionally they were much smaller, like that of the late thirteenth century of Henry le Spring of Houghton (pl. III, *i*) who sits his horse with ease as it gallops hell-for-leather to the sinister; or the small equestrian counter-seal of Peter Montfort (pl. V, *j*). The seal of Sir Thomas Grey of nearly a century later is fully armorial and shows in little all the characteristics of the larger contemporary seals (pl. V, *f*). An unusual pictorial type is illustrated on the seal of Adam of Killingworth of late thirteenth-century date which shows an armed knight on horseback, to whom his lady hands his spear and shield (pl. III, *j*); a reminder of the delightful heraldic picture with which the Luttrell Psalter begins. An armorial shield on an equestrian seal of early thirteenth-century date, with the rider in hunting dress, was borne by Simon, first Montfort earl of Leicester (pl. V, *h*).

II. ARMORIAL

The more difficult and complicated task of tracing the development of armorials upon those seals whose chief motive was a shield of arms must now be attempted. The earliest type of English seals, as we have seen, depicted their owner attesting his deeds by his 'counterfeit presentment'. This idea of personal presence persists throughout upon the royal great seals and upon others of a similar official nature, but about the end of the twelfth century it ceased to be the only type of seal; upon some a shield of arms replaced the knightly effigy (pl. VI, *a*) whilst others, remaining equestrian on the obverse, displayed shields of arms upon the reverse (pl. VI, *h*, h^a).

To avoid confusion it has been thought desirable, as in part I, to divide the devices upon this type of seal into their different parts, and to treat each of these parts separately and, as far as possible, in chronological order of development. It is hoped by this method to avoid confusion and overlapping. The shields and their accessories will, therefore, be considered under the following divisions: 1. The shield; 2. Charges upon the shield; 3. Supporters and other accessories; 4. Crests and mantling; 5. Badges and mottoes.

1. *The shield.* The shields upon the earliest armorial seals were drawn with slightly rounded tops and sides coming to a point in base. They are usually called 'pear-shaped' and represent the convex shields carried by equestrian knights at that date (pl. VI, *a–d*). They were placed upon a plain background without any ornament and though, as one would expect, they vary a little in shape, they all represented the same type of shield (pl. VI, *a–e*). These were followed, in the early years of the thirteenth century, by rather narrower shields with straighter sides (pl. VI, *i*, *j*) and the seals themselves sometimes took the shape of this shield (pls. I, *e*; VI, *m*). After the first quarter of the century the sides and top of the shield were straighter and its shape became nearly triangular (pls VI, *l*; VII, *e*, *g*). These various shapes still represented a convex shield; the finely modelled shields of earl Richard of Clare (pl. VII, *a*), Robert of Ferrers, John of Warenne, and Peter of Montfort (pl. VII, *b*, *c*, *h*) are shown on their equestrian obverses to be concave to the body. Their shape is even more clearly seen on the seal of Roger of Quincy (pl. VII, *f*) who protected himself from an attacking lion by a shield which nearly surrounded his body; even the graceful shield of Richard of Cornwall (pl. VII, *d*) is seen on the obverse (pl. III, *f*) to have been slightly concave. In the last quarter of the thirteenth century shields became more an-

gular, with straight tops and slightly rounded sides: the form usually known as *heater-shaped*, such as we have seen carried at that time on the equestrian type. It was the beautiful shape used during the later thirteenth and the whole of the fourteenth and fifteenth centuries, though it became broader and less graceful in later years (pl. VII, *i–n*). Whilst this shape predominated other forms also appeared, such as shields with straight tops and sides, having their bases either rounded (pl. VIII, *g, h*) or coming to a point (pl. VIII, *i*) or ending in an ogee curve (pl. VIII, *j*). Others of less frequent use had the upper edge concave with curved sides, as those of Walter Beauchamp (pl. VIII, *a*) and Jordan Ridell (pl. VIII, *b*) or the same curved top with straight sides and rounded base ending in a sharp spike, as if meant to stand upright in the ground, as on the seal of Simon Montagu (pl. VIII, *c*). In the same prolific armorial period some arms were not charged upon shields at all but were shown on lozenge, oval, and round-shaped figures (pl. VIII, *n–r*). The shield of John of Gaunt, as king of Castile, is an excellent example of the latter; upon it the arms of that kingdom are impaled with his own (pl. VIII, *d*). One man bravely displayed his arms in the midst of 'the sun in his splendour' (pl. VIII, *p*); whilst shield-shaped seals continued until after the mid-thirteenth century (pl. VIII, *l, m*). In the earlier half of the fifteenth century some shields were of the very decorative shape called *Gothic* (pl. VIII, *e, k*); examples of this style appear until well into the sixteenth century, though by then they had become very debased in style (pl. XIV, *a, b*). Sometimes this type was *à bouche*, that is with a notch cut in the dexter side of the shield to serve as a rest or opening for the knight's tilting spear (pls. VIII, *f*; XIII, *a*). Contemporary with this ornamental shape there are many examples of full-faced wide shields with straight tops and sides and wide rounded bases, a shape that was necessary to contain the many quarters that were then displayed upon them (pl. VIII, *s*).

2. *Charges upon the shield.* It is not the writer's intention to blazon these charges nor yet to attempt to assess their artistic merit, but only to note how the simple devices upon early seals developed into the complicated patchwork of late Tudor times.

From the beginning, in the mid-twelfth century, until about the last quarter of the thirteenth the shield usually bore the arms of only one person. The shield of Robert of Pinkney was an outstanding exception; it bore an indented fess dimidiated by three bars wavy (pl. VI, *f*). There was little or no attempt at differencing, though again the fine label of seven points upon the shield of Roger Lacy was early and singular (pl. VI, *b*). The charges themselves were of a narrow, graceful shape and, covering little of the shield, stood out the more clearly from their background. The bend and label of Roger Lacy (pl. VI, *b*), the saltire of Robert son of Meldred (pl. VI, *d*), and the acutely pointed chevron, with crescent in base, between three wavy stars of Simon of Kyme (pl. VI, *i*) are excellent examples of the form of these ordinaries in early heraldry. Heraldic beasts of this early date upon seals are not very frequent, but the lion (or wolf), either rampant or passant, of Ranulph of Chester (pl. VI, *a*), the two leopards of Richard of Waren (pl. VI, *m*) and the single leopard on the chief of Robert Brus (pl. VI, *c*) all indicate the same economy of space in their design. In the early thirteenth century lions became more lifelike and their rampant attitude more pronounced (pl. VII, *d*); this idea of fierceness and strength is well seen on the pictorial seal of Roger of Quincy (pl. VII, *f*). As the century grew older they became almost all open jaws and grasping claws (pl. VII, *i*, *l*). The splendid lion of Henry lord Percy (pl. VII, *k*) is typical of the early fourteenth-century style of this heraldic beast; he became an altogether tamer animal by the end of the century (pl. IX, *d*). William Longespée (pl. VII, *g*) bore six little lions ramping on his shield, carefully designed to fit its triangular shape ; the six on the shield of Humphrey Bohun, divided by his cotised bend, fitted well into the confined space (pl. VII, *m*). The same fierce litheness was shown by leopards and lions passant, also drawn to fit into the shape of the shield that bore them (pl. VIII, *h*). Displayed, or rather spread, eagles appeared early in heraldry; a typical example was on the seal of Ralph of Monthermer (pl. VII, *j*) or the three upon that of Philip Somerville (pl. VIII, *g*). The ordinaries became wider as the years passed, especially if they themselves bore charges. The change can be seen by comparing the narrow saltire of Robert fitz Meldred (pl. VI, *d*) with the same charge upon the shield of his fifteenth-century descendants, Ralph Neville earl of Westmorland, and bishop Robert Neville (pl. IX, *a*, *b*). Other ordinaries followed the same development. Hatching, to indicate difference of colour, was used upon some early seals. The party palewise shown on the shield of John son of Michael (pl. VI, *g*), the chief of Gilbert son of Meldred (pl. VI, *e*), and the quarters of Geoffrey of Mandeville (pl. VI, *k*) were all so indicated. Canting devices also appeared in the early years of the thirteenth century: an abbey church cramped into the shield of Robert of the Monastery (pl. IX, *n*), a weed springing up and spreading itself over the shield of Beatrice Malherbe (pl. XVI, *c*), and the wavy base on that of Jordan Ridell lord of Tillmouth (pl. VIII, *b*) representing the waters of Till, are examples of many charges of similar origin used so pleasantly on numerous shields of later date. Shields without a charge upon them, distinguished only by different metals, tinctures, or furs, though rare, are not unknown in heraldry.[1] It is therefore very interesting to find two seals[2] of Sir Thomas Holand, K.G. (1320-60), earl of Kent 1360, dated the one 1354 and the other 1357, upon which the shield is uncharged. The first (pl. IX, *k*) displays this plain shield suspended from a tree's branches and flanked on each side by a visored and mantled helm surrounded by a coronet from which rises a fine plume of peacock's feathers. The second (pl. IX, *j*) has the same crested helm in the middle with, on the dexter, a shield bearing the bars and roundels of Thomas lord Wake of Liddel for Sir Thomas Holand's wife Joan—Fair Maid of Kent—*suo jure* countess of Kent and baroness Wake of Liddel. On the sinister is the plain shield as on the earlier seal. A seal of Sir Thomas (pl. IX, k^a) used between the years 1341 and 1343, has the shield charged (*azure*) *fleuretty a leopard rampant* (*silver*), being the undifferenced arms of his father Sir Robert Holand as blazoned for him in the roll of the tournament at Stepney in 1308. He therefore, as a young man, bore his father's arms which he later for some unknown reason discarded. That he did this is further proved by the plain black shield painted for him in a roll of arms (MS. 136·1, no. 106) in the library of the Society of Antiquaries. This, taken along with his two later seals, cannot be explained away as a mistake; one is forced to conclude that Sir Thomas Holand did, in his later years, bear an uncharged shield. Why he forsook his father's shield for this of such sombre hue can only be conjectured, perhaps it was in imitation of the 'unknown knight' of medieval romance, or perhaps it was a 'tournament' shield. Whatever the reason, the fact that he did so seems certain.

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[1] John Woodward, *Heraldry, British and Foreign*, i, 73, ed. 1896.

[2] I have to thank Mr. Anthony R. Wagner, Portcullis Pursuivant, for telling me of these seals and also of the painted shield in the *Antiquaries* roll.

The combination of more than one coat of arms on a single shield was an early-felt need. The method of *dimidiation* used by Robert of Pinkney in the late twelfth century has already been noted (pl. VI, *f*); it continued in use occasionally during the thirteenth century as we shall see later in dealing with women's seals (pl. XV, *h*; XVI, *p*, *q*). It was not, however, a very satisfactory way, and soon that of *impalement* or placing the arms of two or more persons or families[1] side by side on one shield was adopted; this method also is better illustrated in the section upon women's seals (pl. XVI, *m–o*). Another method is illustrated upon the late thirteenth-century seal of Hugh of Baliol (pl. IX, *m*) which represented the orle or voided escutcheon of his family by superimposing three shields upon each other, each of the two top ones being of smaller size than the one beneath it. He marked his descent from Dervorguile, daughter and heiress of Alan lord of Galloway, by placing a small shield charged with the rampant lion of Galloway in sinister chief. His mother's seal is illustrated in the women's section (pl. XV, *g*, *h*). The same end was also achieved at this time by grouping more than one shield within the borders of one seal. Baldwin Wake, rather monotonously, made a sexfoiled figure by repeating his own shield six times. Hugh Courtenay combined three different shields in one design, with a cinquefoil between each, making a very effective seal (pl. IX, *x*), whilst Gilbert Lindsay hung two shields side by side from the necks of a two-headed spread eagle (pl. IX, *v*). This method was not common and was more generally used by women than men (pl. XVI, *x–ff*). It reappeared, however, in the fifteenth century when Thomas Chaworth flanked his own quartered shield, upheld by an angel, with three allied shields (pl. IX, *q*) and William Hoo placed four shields within a sexfoiled figure, surrounding his own (pl. IX, *r*), and Thomas, lord Ros, placed the same number around his Gothic-shaped quartered shield (pl. XII, *c*). A better way than any of the foregoing was that of *quartering*[1] which came into use upon seals in the early half of the fourteenth century. The privy seals of Edward III (pl. IX, *o*) and Richard II (pl. IX, *c*) are beautiful examples of the type. The seal of Richard earl of Arundel (pl. IX, *p*), quartering Fitzalan and Arundel, dated probably a little earlier than the royal privy seals. It is the earliest private seal of the type that the writer has found. That of Henry Percy, earl of Northumberland (pl. IX, *e*) is an excellent example of the clear and effective shield that can be attained by this method. Such quartered shields were, however, comparatively rare in the fourteenth century, but became more common in the fifteenth (pls. IX, *e*; X, *h*). In the later fifteenth and sixteenth centuries quarterings were sometimes so numerous that the shield became a confused patchwork of coats of many colours (pls. IX, *g*; XIII, *b, c, f*) made even more complicated when an escutcheon of pretence was placed in the middle of the chessboard (pl. XIII, *a, b*).

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[1] Official arms were impaled with their own shields by bishops, kings-of-arms, etc., from the fifteenth century the official shield taking precedence.

Differencing is the method by which a shield can be so altered as to represent families connected with the original either by blood, marriage, or by feudal ties, whilst yet retaining something of its identity—*plus ça change, plus c'est la même chose.* Seals show that this was done in diverse ways, the chief of which were: 1. Adding a label, baston, border, canton, or other ordinary; 2. Change of tincture; 3. Adding or altering subordinate charges; 4. By marks of cadency. Both label and baston are shown on the bold seal of Roger Lacy (pl. VI, *b*). A label of eight points was upon that of Sayer de Quincy (pl. III, *e*). A baston only was on that of Gilbert son of Meldred (pl. VI, *e*). Later the label itself was sometimes charged as on the seal of John of Gaunt as king of Castile (pl. VIII, *d*), where the impalement for Lancaster has a label ermine for his earldom of Richmond. The fine seal of John duke of Bedford (pl. XI, *l*) bore a label of five points, two ermine of Brittany (for Richmond) and three with the fleurs-de-lis of France. Labels were in use during the whole period and are indeed still used for the heraldry of the royal family. Edmund first earl of Lancaster placed a label of France above his English leopards (B.M. 12,665) but upon an early seal (1234) he treated them with less respect by joining the three bodies to one central head, thus forming a fylfot cross (Merton Coll. deeds 435). His successors differenced by a baston (pl. XI, *e*) until Henry third earl who returned to the early label of France (B.M. 12,680). John of Gaunt used a label of Brittany (B.M. 12,691). His son Henry of Bolingbroke used a label of five points, two of Brittany, three of France (B.M. 12,684). The quarterly shield of the earls of Essex was differenced by the Fitz Rogers (Claverings) of Warkworth by a baston sable (pl. IV, *d*). The early pear-shaped seal of Walter Clifford bears a baston over his checkers (pl. X, *t*). The border either plain or charged is best illustrated by its use by members of the royal house like the border company around the Beaufort shield (pls. X, *h*; XII, *g*; XVII, *d*) or that charged with martlets which surrounded the royal arms on the seal of Jasper Tudor (pl. X, *b*). Thomas Holand earl of Kent encompassed the royal leopards with a silver border (pl. X, *d*) whilst John Holand earl of Huntingdon, admiral of England, placed the golden lilies of France upon an azure border around his arms embroidered upon the sail of a man-of-war (pl. XIII, *e*). William of Felton, a knight of Northumberland, a cadet of the Norfolk branch of the Feltons of Shropshire, who used the lions passant of L'Estrange, altered in colour for their shield, surrounded his two lions passant with the royal tressure of Scotland, and though an English knight, prominent in the Scottish wars of Edward III, yet bore it with impunity (pl. X, *j*). The use of a canton is illustrated by the seal of La Zouche – Alan lord la Zouche (pl. X, *k*) bore only the ten bezants of his family shield, but others of the name added a canton ermine to it as seen on the seals of John and William La Zouche (B.M. nos. 14,681 and 14,691).

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[1] The earliest example of this is on the tomb of Eleanor of Castile, d. 1290 (*Hist. Mon. Conv. London*, i, 29 and plate facing).

Change of *tincture* was also from early days a favourite method of differencing, and though such changes are not apparent on seals, it is of importance and cannot be ignored here. Mention has already been made of the differenced Mandeville shield borne by the Fitz Rogers; this was further differenced by the Widdringtons who used it of silver and gules (D.S. 2651–54). The golden orle upon a field gules of Baliol (pl. IX, *m*) was borne upon an azure ground by the Bertrams of Bothal (pl. VIII, *l* and D.S. 225) whilst the warlike Antony Bek, bishop of Durham, changed the silver mill-rind cross of his family into one of ermine (D.S. 3125–26).

Subordinaries were either strewn over the field of the shield or borne upon the main charge; they are to be distinguished from the purely ornamental diapering of the shield with scroll work or foliage sometimes used to relieve the plain surface of a shield whose charges do not sufficiently cover it (pl. IX, *s*). The shield of Geoffrey Neville (pl. IX, *u*) was sprinkled with small crosses, as also were some of the shields of the Lucys of Cockermouth (*Notes upon Nicholas*

Upton, plate, p. 73).[1] Guy Darrayns (pl. IX, *t*) differenced his Baliol orle by placing escallops upon it. A similar method was the substitution of one charge for another, thus the stars (*estoiles*) on the chevron of Reynold Cobham (pl. IX, *i*) were changed into three molets by Joan Cobham (B.M. 8722), into three lions rampant by John (B.M. 8724), into three crescents by another Reynold (B.M. 8744) who further differenced by an annulet. The *Notes upon Nicholas Upton*, p. 3,[2] gives others of the name who charged the chevron with flowers de luce, martlets, spread eagles, and crosses crosslet. The quarterly shield, with a baston over all, of the Fitz Rogers already mentioned, was further differenced by their descendants the Evers who made a bend of the baston and placed three silver escallops upon it (D.S. 930–1) whilst the family of Middleton removed the baston and placed the silver cross patonce, of their overlords the Vescis, in the quarter (D.S. 1785). Robert Brus (pl. VI, *c*) charged the chief of his shield with a leopard for his lordship of Annandale. Hugh Baliol (pl. IX, *m*) showed his descent from his grandfather Alan of Galloway by placing a shield bearing the lion of Galloway in the sinister chief of his own shield. The modern method of denoting *cadency* by a small single charge such as a crescent, martlet, fleur-de-lis, or ring, placed either in the field or upon an ordinary, was in use by the mid-fourteenth century and continued all through the period until the present day. Examples of this usage are seen on the Neville seals (pl. IX, *a*, *b*, *h*).

3. *Supporters and accessories of the shield*. Before the middle of the thirteenth century the background of the shields had, as we have seen, been left plain, but by about that date the empty spaces between the sides of the shield and the surrounding border were filled in with tracery of fine scroll work or covered with twining foliage (pl. VII, *b–d*). Later the shield was set within geometrical figures the lobes of which were filled with the tracery of foliage (pl. VII, *c*) or it was represented within similar tracery but hanging from the branches of a tree with shrubs at each side (pls. VII, *k*; X, *c*). By the middle of the fourteenth century that style had almost disappeared, but the beautifully decorated border on the reverse of Thomas Beauchamp's dated seal (pl. X, *a*) was a fine example of a similar type, and the seal of Thomas Lord Ros of Hamlake (pl. X, *i*) was a later instance of a surrounding geometrical border. In the fifteenth century fine tracery was sometimes used upon the field of the complicated seals of that date, but it was then subordinated to other motives and was more of the nature of diapering (pl. X, *e*). Lacertine creatures creeping up the sides of the shield were sometimes used after the middle of the thirteenth century, for the same reason as tracery. An early example of these was upon the seal of William of Kyme (pl. IX, *w*); another with humped monsters rather larger than usual and of a little later date, was that of Thomas Chaworth, whose shield hung from a

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[1] Ed. Edward Bisshe, London, 1654.

[2] *Ibid.*

hook with its point resting upon the back of a crouching lion (pl. X, *m*). The lozenge upon which William Paynell displayed his arms had four of these unpleasant creatures crawling around it (pl. X, *g*), whilst the tails of those on the reverse of the seal of Thomas of Lancaster (pl. X, *f*) blossomed into flowers. The grotesques of gargoyle-like form which spread themselves at the sides of the shield of Simon lord Montagu (pl. VIII, *c*) were similar in motive. There can be no doubt that these devices were the beginnings from which came the delightful and decorative additions to the art of heraldry called *Supporters*. An early type of these was upon the reverse of the seal of Richard of Clare (pl. VII, *a*), whose shield, hanging from conventional branches, rested upon the heads and backs of two lions ramping up the inner border of the seal. Examples of this rather effective style are found, almost to the end of the fourteenth century, upon the smaller seals then used, but at that time the shield was usually represented hanging from a tree, growing behind it, upon whose roots the shield stood, as on the seal of Guy lord Bryan (pl. X, *u*). Examples of this type, but with the shields resting upon the backs of lions, were the seals of Michael de la Pole (pl. X, *n*) and John la Warre (pl. X, *r*), the latter, in playful mood, placed his helm and crest upon the lions' heads. The fine shield of Henry lord Percy (pl. X, *p*) hung from branches and rested upon the backs of two pheasants, who pecked at the flowers hanging above them. On the second seal of Guy lord Bryan (pl. X, *o*) lithe monsters of an earlier style did not creep up the sides but were so contorted that his shield was supported upon their backs whilst their heads, resting upon its top, ate of the fruit of the tree from which it hung. The shield, on one of the small seals of Aymer of Valence (pl. X, *q*), hung from three branches and its sides were surrounded with delicate tracery upon which two little martlets, from his shield, perched. The fanciful seal of Roger Leybourne (pl. X, *l*) hung from a tree from which a branch sprouted at each side, the dexter blossomed into flowers, the sinister bore a crested helm. A banner of arms stood behind on the dexter. The seal of Edmund of Cornwall (pl. VII, *i*) illustrated a different type of early supporter. His noble shield hung from the neck of an eagle, now almost destroyed; so also did that of John Beaufort (pl. X, *h*). The two shields of Gilbert of Lindsey hung from the necks of a two-headed spread eagle, whilst John Beauchamp displayed his upon the breast of a spread eagle (pl. X, *s*). The shield of Alan la Zouche (pl. X, *k*) hung from the open jaws of a ramping lion, and little lion cubs chased each other around its sides; a pleasant way of telling that his mother was a daughter of Stephen Longespée.

On the armorial seals of the thirteenth century and upon some of those of the early part of the fourteenth, the shield of arms was the chief motive, its surroundings were subordinate to it, tending to emphasize its importance. Another more complicated style appeared after the first quarter of the latter century;

upon it the shield of its owner was less conspicuous, it was set amidst tracery, geometrical or other, in the spaces of which were armorial roundels which either multiplied the central shield or bore those of related families (pl. XI, *o–s*). This fashion was not common except, as will be seen later, upon the seals of women (pl. XVI, *bb–ee*). It did, however, occasionally recur in the fifteenth century (pl. IX, *q*, *r*).

The various designs or devices surrounding the shields so far considered have been chiefly ornamental in intention and not, except for the trees, primarily intended to uphold the shield. Heraldic *supporters* proper appear about the mid-fourteenth century; they were then placed at each side of the shield holding it upright, like the lions, sitting in a forest, on the privy seal of Thomas of Hatfield (pl. XI, *a*) or the two bears which steadied the hanging shield of Alexander Neville (pl. IX, *h*). Henry Percy first earl of Northumberland (pl. IX, *d*) as lord warden of the Marches against Scotland, stood in full armour, his sheathed sword in his right hand, his left holding upright his lion shield, his banner of arms in the crook of his elbow. Later, after his marriage with the Lucy heiress, he, in the same manner, held his then quartered shield (pl. IX, *e*). His great-grandson as warden of the East Marches towards Scotland, supported his quartered and differenced banner by a sitting lion who held it upright in his right paw (pl. IX, *f*). Thomas Holand earl of Kent (pl. X, *d*) hung his shield from the crowned neck of a hart couched in a forest—the badge of his kinsman Richard II. If, writing upon the seals of England, one may be permitted to take an example from Scotland, the shield of Archibald earl Douglas (pl. XI, *b*) was represented in a woodland thicket held up by two savage men, whilst on a later seal (pl. XI, *c*) his shield was suspended from the right hand of a *wodeman* with his club, who held the earl's crested helm in his left hand.

In the later fourteenth century and for the greater part of the fifteenth the shield was represented *couched*, that is lying upon its dexter side with a crested helm resting upon the sinister upper corner; the supporters, therefore, upon seals of this type did not support the shield but, standing by its upper and sinister edges, held up the helm and crest. The seal of Henry of Lancaster (pl. XI, *e*) of the late thirteenth century is the earliest of this type that has been found; it is quite exceptional for its date. Two strange monsters there stand by the edges of the shield and between them hold up the earl's crested helm. A few typical examples of this style in later years are on pl. XI; those namely of Robert lord Willoughby (*d*), Edward Courtenay (*h*), John Fitzalan earl of Arundel (*g*), and William lord Hastings (*f*); and on pl. XIII. There were, of course, many exceptions to this predominant type. The shield of William Montagu earl of Salisbury (pl. XI, *j*) stood upright and a dragon held it at each side. Thomas lord Despencer (pl. XI, *i*) used no supporters, instead armorial lozenges hung from trees at each side of his crested helm; Bartholomew lord Burghersh (pl. XI, *m*) placed his shield upright beneath a triple canopy between two mantled helms, each bearing his crest of a bearded and wreathed man's head. The small hounds who sat upon a hill and supported the large crested helm of Ralph earl of Westmorland were almost lost in intricacies of tracery and scrolls (pl. IX, *a*). Sometimes in the fifteenth century a return was made to the simpler style of earlier years. Sir Reynold Cobham (pl. IX, *i*) placed two stars from his arms at each side upon his dignified seal. John duke of Bedford (pl. XI, *l*) and Sir John Lumley (pl. XI, *k*) used no supporters; the backgrounds of both shields were finely diapered with branching foliage. The ostrich feathers on that of the former give an added beauty to his noble achievement of arms. The shield of Sir Geoffrey Luttrell (pl. XI, *n*) couched in a wood with shrubs, flowers, and grass growing beside it: a seal not unworthy of him who caused the Luttrell Psalter to be made. The lions which supported the mantled helm and lion crest of Henry earl of Northumberland (pl. X, *c*) with their diapered background make up a clear harmonious design rather exceptional for the date. By the mid-fifteenth century the field of the seals became filled with accessories, such as related shields, emblems, and devices, or mere ornamental designs which crowded around the main motive and dominated the whole composition. The seal of Richard earl of Salisbury (pl. XII, *a*) was an early example of this tendency. That of John duke of Norfolk (pl. XII, *b*) was of similar style, as well as the rather crude design of Thomas lord Ros (pl. XII, *c*). The seal of Edmund Beaufort is of a clearer and less intricate style (pl. XII, *g*). By the end of the fifteenth and in the sixteenth centuries the fashion of couching shields had become obsolete and they were again displayed full face, with a supporter at each side (pls. XII, *d–f*; XIV, *a*, *b*, *e*, *g*), the background being filled with debased tracery (pl. XII, *e*; XIV, *b*), but it should be noted that some seals of Tudor date were very decorative (pls. VIII, *e*; XII, *f*).

4. *Crests and mantling.* The early form of these ornaments to helms has already been noted upon the cylindrical type on the late thirteenth-century equestrian seals, and their development thereon during the next century has been illustrated. They appeared upon armorial seals about the same date, the earliest found being the wyvern that sat upon the helm of Henry of Lancaster (pl. XI, *e*); this was, however, a solitary forerunner, for it was not until after the first quarter of the fourteenth century that crests with mantled helms became a customary part of an armorial seal. That of William of Kyme still kept the early style of both (B.M. 11,164) whilst the lion's mane on the seal of Henry lord Percy (pl. XII, *i*) partly covered his helm, with the *lambrequin* draped at each side. This silk scarf gave place about the middle of the fourteenth century to the true heraldic mantling whose general style is more clearly seen upon armorial seals,

with their large helms and crests which rather dwarf the accompanying shield, than upon the equestrian type. It fitted closely, at first, to the back of the helm, presumably to protect it from sun or rain, and had dagged edges ending in a tassel. It was of simple form and not as yet used as an ornamental motive (pls. xi, *h*, *i*, *k*, *l*; xii, *h*). In the early fifteenth century its utilitarian origin seemed forgotten and it was treated as an ornament flowing around and above the helm and sometimes even surrounding the shield with its flamboyant curves and slashed edges (pls. xi, *g*; xii, *l*, *j*; xiii, *a*). Later it became almost the chief decorative motive, and the field of the seal is covered with its intricate convolutions (pl. xii, *j*). Its form deteriorated greatly in the sixteenth century when it twisted out at each side of the full-faced helm in meaningless profusion (pls. xii, *d*, *e*; xiv, *a*, *b*).

Crests, upon armorial seals, were usually either surrounded by a coronet, not then used as a symbol of rank (pls. ix, *j*, *k*; xi, *f*, *h*), or rested upon a twisted silk scarf called a wreath (pl. xi, *g*; xiii, *m*), or, for the greater barons, stood upon a cap of maintenance (pls. x, *h*; xi, *l*; xii, *b*; xiii, *h*, *i*).

Sometimes all these were absent and the crest was fixed direct to the helm. The long hair and beard of the noble crowned Soldan's head, crest of Robert lord Willoughby (pl. xi, *d*), formed the mantling for his acutely pointed helm; in like manner the veil that fell from the head of the similar crest of Sir Reynold Cobham (pl. ix, *i*) was the mantling for his helm; so also the hide of the neck of the bull's head, crest of Ralph Neville earl of Westmorland (pl. ix, *a*) (itself a memorial of the house of Bulmer), formed the helm's mantling. Sir Ralph Botreaux, in another style, placed his griffin crest upon a cap of maintenance and the dagged mantling blossomed into flowers at each side (pl. xiii, *l*), whilst the lion crest of Sir John Beaumont stood upon a cap of maintenance the ermine of which was carried down as mantling (pl. xiii, *i*). The plant-like crest of Sir Geoffrey Luttrell continued at the back of his helm, fastened to it by a twisted wreath of reeds (pl. xi, *n*). The skull of a deer covered the back of John Pychale's helm and its antlers were his crest (pl. xiii, *r*), whilst Sir John Lumley provided two perches for his popinjay crest to stand upon (pl. xi, *k*). The mitre crest of Thomas lord Berkley (pl. xiii, *j*), upheld by two mermaidens, was without any mantling, and the bull's head of the Nevilles issued between the horns of his mitre upon the privy seal of Robert Neville, bishop of Durham (pl. ix, *b*); the ribbons of the mitre supplanting the knightly mantling. A noble bush of feathers arose from the coroneted helm of Thomas Holand (pl. ix, *j*, *k*). More fanciful styles sometimes occurred on fifteenth-century seals; thus the shield of William lord Fitzhugh (pl. xiii, *g*) was held by a sitting lion whose head was inside the baron's crested and coroneted helm, whilst the beast's forelegs, extended at each side, grasped banners of arms in its paws. A little lady knelt at each side of the crested helm of Thomas Kerdeston (pl. XIII, *n*), each holding in her right hand a small helm and crest and in her left a chaplet of flowers. In the sixteenth century when shields were once more upright, the helms and crests were placed in the middle, resting upon the top of the shield, with mantling, of a poor style, curling out at each side (pls. XII, *d*, *e*; XIII, *f*; XIV, *a*, *b*). Sometimes, though rarely in England, two crested helms were placed above one shield as on the fine fifteenth-century seal of Richard earl of Warwick (pl. XIII, *c*). The lofty crested helm and shield of George earl of Angus (pl. XIV, *c*) were in an unusual pictorial setting. They were placed within the earl's enclosed park, wherein trees and flowers grew, beasts roamed, and in which a lady, crowned with flowers, making posies, was seated.

5. *Badges and mottoes.* An heraldic badge is a device not used as an armorial charge upon a shield nor as a crest, but as a distinctive mark or emblem of a family or of an individual, or used to indicate the tenure of some office. Badges are not found upon seals until towards the end of the thirteenth century. The splendid shield of Humphrey Bohun hung from the back of the well-known white swan badge of his family (pl. XIII, *d*). Thomas Holand used the couched white hart badge of his kinsman Richard II to support his shield (pl. X, *d*). John duke of Bedford placed the famous ostrich feathers, used by the descendants of Edward III and Philippa of Hainault, at each side of his shield, entwining them with the significant word *souvereyne* which his father Henry IV used before coming to the throne (pl. XI, *l*). With a scroll through the pen and upheld by two crouching leopards they appeared at each side of the royal shield on the privy seal of Richard II (pl. IX, *c*). In later days they were placed at each side of the helm and crest on the seal of John duke of Norfolk (pl. XII, *b*). Ralph Neville used the letter B, the initial letter of Bulmer, in large black letter at each side of his crest (pl. IX, *a*). The armour of Henry Percy earl of Northumberland was strewn with the silver crescent badge of his family (pl. IX, *d*). The quartered seal of his son Harry Hotspur (pl. XIV, *d*) hung from a fetterlock, another Percy badge. Bartholomew lord Burghersh placed a badge of a swan with a woman's head above his shield (pl. XI, *m*). The symbols, referring to his royal and foreign relations, which surrounded one of the small seals of Aymer of Valence might also be called badges. Above his shield was a leopard of England, on its dexter were lilies of France, and on the sinister a 'bar' or fish between three trefoils for Clermont-Nesle (pl. XIII, *p*). Badges referring to an office are illustrated by the castle above the broad shield of Simon lord Montagu which told of his governorship of Corfe Castle in 1299–1300 (pl. VIII, *c*), though a castle was the usual official badge of a sheriff. The royal leopards placed around the shield of Walter Beauchamp probably referred to his office of steward of the royal household, which he held from 1296 to 1302 (pl. VIII, *a*). Richard duke of York signified

his office of steward and chief justice of royal forests by placing his shield between the antlers of a stag, upon whose head the point of his shield rests (pl. XIII, *k*), whilst Thomas Ferrers placed a bugle horn upon his shield with two leopards of England and two castles of Castile in the border (pl. VIII, *r*). William Marshall, hereditary marshal of Ireland, placed a marshal's baton at each side of his shield (pl. XIII, *o*) and John earl of Huntingdon, as admiral of England, Ireland, and Acquitane, blazoned his arms of the royal leopards within a border of France upon the mainsail of a man-of-war (pl. XIII, *e*). Other examples of the use of badges upon armorial seals occur, but those cited sufficiently show the method of their use.

Mottoes, or *words* as they were called, did not appear upon seals until towards the end of the fourteenth century. They were almost always inscribed upon scrolls such as those held in their beaks by the birds which hold up the crested helm of Edmund of Langley (pl. XIII, *h*) or those at each side of the helm with its great bush of feathers on the seal of Sir John Falstaff (pl. XIII, *m*). A later example twined around the crest of Richard earl of Salisbury (pl. XII, *a*), and another was on the seal of his kinsman the bishop of Durham (pl. IX, *b*). Some are not on a scroll but are written on the field, like the *word* on the dexter side of the crested helm of William Hoo (pl. IX, *r*). Sometimes the scroll occurs beneath the shield like that with *esperance* upon it on the seal of Henry Percy earl of Northumberland (pl. XII, *d*), and those of Edward duke of Somerset (pl. XIV, *b*), Peregrine Bertie (pl. XIV, *h*), and Thomas Howard (pl. XIV, *e*) in the sixteenth century, or on that of Henry Hastings in the seventeenth (pl. XIII, *f*). A motto occasionally took the place of the legend around the border upon sixteenth-century seals, as upon that of John Dudley duke of Northumberland (pl. XII, *e*). About the same time it became customary for Knights of the Garter to surround their shields with the garter and motto of the order, as on the seals of Thomas Maners earl of Rutland (pl. XIII, *q*) and Anthony Browne viscount Montagu (pl. VIII, *k*). Henry earl of Northumberland, 1527–37, had a new seal engraved after he was made K.G. in order that the motto might be placed around his shield (pls. XII, *d*, and XIV, *a*).

III. WOMEN'S SEALS

The use of seals by Englishwomen began, in the early years of the twelfth century, with a type whose motive was similar to that on the seals of their fathers and husbands. Just as the latter then represented themselves fully armed ready to discharge their duties in war, so their wives and daughters were depicted standing upon pointed oval seals clad in ceremonial dress ready to fulfil their social duties. The shape was that best fitted to contain their figures.[1] The type was non-armorial until the early years of the thirteenth century when the figures were accompanied by shields of arms and so continued until towards the end of the century, though an occasional example occurs as late as the first half of the following century.

A seal whose chief motive was a shield of arms came into use in the early thirteenth century and, running parallel with the earlier style, superseded it entirely in the later fourteenth and following centuries. The consideration in detail of these different types is for the sake of clarity divided into the following sections:

I. Standing figures without armorials.
II. Standing figures with armorials.
III. Armorial shields: 1. Single shields; 2. Dimidiated, impaled, grouped, and quartered shields; 3. Supporters and badges.

I. *Standing figures without armorials.* The earliest known English seal of this type, dating shortly after A.D. 1100 is that of Maud, queen of Henry I, daughter of Malcolm III (Ceannmor) and his wife St. Margaret of Scotland. She was represented clad in her royal robes, crowned and holding sceptre and orb (pl. xv, *a*). Ladies of lesser degree were depicted wearing the dress of the period with a cloak, usually lined with fur (*vair*), falling from their shoulders (pl. xv, *b*, *d*). They held a flower of fleur-de-lis type in their hand and sometimes had a hawk upon their left wrist (pl. xv, *b*).

II. *Standing figures with shields of arms.* Early in the thirteenth century these figures were shown standing upon a carved bracket beneath an architectural canopy (pl. xv, *c*). Their robes were often embroidered with armorials (pl. xv, *c*, *i*) and shields of arms were either placed at their sides or held upright in one or both hands (pl. xv, *e*, *g*, *i*, *l*). The seal of Margaret countess of Winchester (pl. xv, *c*) is a fine example of the type. Her dress displayed the *mascles* of her husband's arms, her gracefully draped cloak was lined with *vair*, she held a flower-de-luce in her right hand, and shields of arms of Fitzwalter and Quincy hung from the branches of a delicately curved tree in front of her. Later in the century the use of counterseals whose sole motive was armorial came into general use. Elie Basset (pl. xv, *e*) displayed the checky shield of her first husband in the field upon her right hand, whilst she held that of her father, William Longespée, in her left. Her counterseal bore the wavy bars of her second husband upon a shield within a beautifully designed quatrefoil, and the vacant spaces above and beneath it were filled with a lion from her father's shield, making a finely balanced design (pl. XV, *f*). Emmeline Longespée adopted a similar style (pl. XV, *l*) but she held her father's and her husband's shields one in each hand; beneath them on each side was a leopard and a long sword. Her counterseal (pl. XVI, *i*) bore only the Longespée shield with the same symbols around it. The type developed into a sort of genealogical tree upon whose branches hung the shields of more remote ancestors. The charming figure of Agnes of Vesci (pl. XV, *i*) stood upon a plain corbel beneath an embattled canopy, with a background of foliage and roses. In her right hand she upheld a shield of arms of Vesci, her left held the same cross, with an elongated lower limb, embroidered upon her dress. The *vair* shield of Ferrers was upon her left hand. Her counterseal (pl. XV, *j*) showed a tree of many branches upon which, on the main trunk, hung the shield of her husband, and beneath it that of her grandfather Ranulph earl of Chester; on the dexter branch, now destroyed, would be the *vair* shield of her father and on the sinister was the shield of her maternal grandfather William Marshall earl of Pembroke.

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[1] An Englishwoman's seal of equestrian type has not been found by the writer though the seals of some of the Countesses of Flanders were of that type (*Sigilla Comitum Flandriae*, by Olivar Vedrius).

Dervorguile of Baliol varied the type on her seal (pl. XV, *g*). She stood, in widow's weeds, upon a carved bracket, upholding in her right hand her husband's shield of Baliol, in her left her father's lion of the lordship of Galloway. A tree grew on each side of her, from that upon the dexter hung a shield of the *garbs* of the earldom of Chester, on the sinister one charged with the piles of her maternal grandfather David of Scotland earl of Chester and Huntingdon. The armorial reverse (pl. XV, *h*) bore a shield hung from a tree upon which the lion of Galloway on the dexter was dimidiated by the orle of Baliol on the sinister. It will be seen that whilst on the seal she gave precedence to her husband's orle, on the counterseal she redressed the balance and gave the place of honour to her father's lion. Smaller shields bearing the garbs of Chester and the piles of David of Huntingdon hung from branches above it. By the end of the thirteenth century these figure seals had practically ceased. A very fine one was, however, used as late as 1345 by Marie of St. Paul countess of Pembroke (pl. XV, *k*). Upon it she stood, a very gracious figure, upon a carved bracket beneath a triple canopy, in a niche of rich tabernacle work; on her right side in a smaller niche was the shield of her husband Aymer of Valence, on her left hand in a like setting was that of her father Guy de Chastillon. These two shields in the midst of rich tracery are impaled by dimidiation on her counterseal (pl. XVI, *l*).

III. *Armorial Shields*. 1. *Single shields of arms*. The chevronny shield of Gilbert son of Richard of Clare was found in part I of this paper to have been the earliest device which afterwards became an heraldic charge (p. 3 above).

This device was also upon the seals of his sister Rohese countess of Lincoln (pl. XVI, *k*) and upon that of her daughter Alice wife of Simon of St. Liz earl of Northampton; thus by the mid-twelfth century the chevrons of Clare were in use by both the men and women of that great family, but it should be noted that about the year 1170, Maud, wife of Roger of Clare earl of Hertford, used a portrait seal of herself standing and receiving a hawk from an attendant (B.M. 6614). The seal of Agace Trusbut (pl. XV, *m*) of late twelfth-century date was armorial in motive, bearing one of the bougets, a canting charge, from the shield of her father, but it was not until the first quarter of the thirteenth century that armorial seals of women became general. The shield seems at first to have been upon an oval seal, influenced no doubt by the contemporary figure seals (pl. XVI, *d*, *e*), and occasional examples of the use of this shape occur in the later years of the century (pl. XVI, *a*, *b*) and also in the fourteenth.

Their usual shape, however, was round, and even upon the oval figure seals of the middle of the thirteenth century the armorial *secretum* or counterseal was round (pl. XVI, *i*, *l*). In these two examples it could apparently be used as a separate seal. The interesting early thirteenth-century canting armorial seal of Beatrice Malherbe (pl. XVI, *c*) and that of Elizabeth Comyn (pl. XVI, *f*) of later date were good examples of this armorial type. The rather later seal of Joan Wyn (pl. XVI, *g*) was singular in that it showed the shield couched, with helm, crest, and supporters; the only example of that type, used by a woman, known to the writer. A seal bearing a single shield of arms was, however, not the typical woman's seal, as they naturally wished to display their fathers' arms with those of their husbands.

2. *Dimidiated, impaled, grouped, and quartered shields.* This desire to continue their own armorial identity led in the late thirteenth century to the introduction of *dimidiated* shields of arms. By this method those of husband and wife were cut in half and the dexter half of the former joined to the sinister half of the latter to make a single shield, but this simple way was not always followed as the process varied considerably. The earliest example, namely that on the seal of Dervorguile of Baliol (pl. XV, *h*) has the lion of her father on the dexter and half of the Baliol orle of her husband on the sinister. Conversely Joan de la Haye (pl. XVI, *h*) cuts the sun of her husband in half on the dexter, whilst the entire lion of her father is on the sinister. The seal of Elizabeth Cornwall (pl. XVI, *q*) illustrates yet another method. The dexter side of her dimidiated shield shows the whole lion of her husband but only half of his *border bezanty*, the sinister half contains the dexter half of her father's shield, probably because it was not considered seemly to show only the rumps and tails of his lions. The seals of the two wives of Aymer of Valence are each an example of perfect dimidiation; they both have the dexter half of Valence joined respectively to the sinister half of Bar and Chastillon (pl. XVI, *p*, *l*).

Impaled Shields. Dimidiation was neither a convenient nor satisfactory way of attaining the desired end, and after the early part of the fourteenth century it was supplanted by *impalement* by which the entire arms upon two or more shields were placed side by side and contained within the border of one shield. This method continued in use throughout our period and is used to the present day. It was usual to impale the husband's arms on the dexter with those of the lady's family on the sinister, as seen on the seals of Juliane lady Hastings (pl. XVI, *m*), Joan ap Griffith (pl. XVI, *n*), and Joan countess of Hereford (pl. XVI, *o*). The seals of Joan countess of Westmorland (pl. XVI, *r*) and Joan countess of Kent (pl. XVI, *s*) show that when a border formed part of the arms it was carried down the centre line between the two coats. The beautiful fifteenth-century seal of Anne countess of Devon treated the Talbot border in that way (pl. XVII, *f*). The decorative seal of Joan lady Abergavenny (pl. XVII, *b*) was another example of an impaled shield of the same period. The sixteenth century is represented by the noble seal of Cecily Neville duchess of York and mother of Edward IV (pl. XVII, *a*) and by those of Elizabeth duchess of Norfolk (pl. XVII, *c*) and Margaret Beaufort duchess of Somerset, whose checky border divided the arms of Beaufort from those of Beauchamp of Bletso (pl. XVII, *e*). Three shields of arms were sometimes, though rarely, impaled upon one shield. Maud countess of Northumberland (pl. XVI, *v*) placed the lion of her third husband Henry Percy between the Umfreville shield of her second husband and the luces of her father Anthony lord Lucy, although she could not by this method display the shield of her first husband Richard fitz Marmaduke. Beatrice Burley (pl. XVI, *w*) varied this arrangement by placing her paternal arms of Stafford in the middle between the bougets of Ros, for her second husband lord Ros, on the dexter and the arms of her third husband Sir Richard Burley on the sinister. She too, for lack of space, omitted the shield of her first husband Maurice earl of Desmond.

Grouped shields. In the early fourteenth century shields upon some seals were neither *dimidiated* nor *impaled* but the desired result was obtained by placing two or more shields together in one composition. Thus Alice le Latimer (pl. XVI, *u*) hung two very beautiful shields side by side from the branches of a tree growing between them; in like manner in a later century Margaret Talbot countess of Shrewsbury (pl. XVII, *g*) displayed the many quartered shields of the earldoms of Warwick and Shrewsbury hung side by side from the lopped branches of the Warwick badge of a tree trunk. By placing four shields grouped in a circle upon her seal Eleanor Mauduit (pl. XVI, *ff*) succeeded in recording that she was a daughter of the house of Clare, the widow (1) of Richard fitz Marmaduke and (2) of Robert Umfreville, and the wife of Sir Roger Mauduit. Eleanor's kinswoman, Margaret lady Badlesmere (pl. XVI, *z*), solved a similar problem in a different manner. She marshalled, by dimidiation, in the centre of her seal, the arms of her first husband, Gilbert of Umfreville, with those of her second, Bartholomew lord Badlesmere; on the dexter side of this shield she displayed the differenced Clare arms for her father, and on the sinister, not having a third husband to commemorate, she placed the shield of her mother Juliane Fitzgerald. Sybil Arundel (pl. xvi, *aa*) in mid-fourteenth century placed the heater-shaped shield of her husband in the midst of fine tracery, and upon lozenges at each side she displayed her father's (Montagu) and her mother's (Grandison) arms. Later in the century Eufemie, wife of Sir Walter Heslarton (pl. xvi, *y*), grouped four shields within a beautiful quatrefoil. She placed the saltire of her father in chief with the shield of Heslarton in base, on the dexter were the luces of her first husband and on the sinister the Clifford arms of her second.

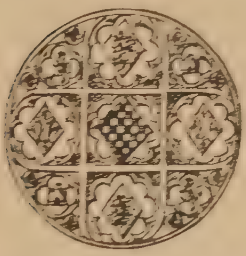


Fig. 5. Joan, countess of Surrey

About the middle of the fourteenth century a type of seal came into fashion which produced some of the most delicately beautiful of medieval seals. Upon it the chief shield was placed, alone, in the centre of finely engraved tracery in whose open spaces subordinate allied shields were displayed, either within roundels (pl. xvi, *bb–dd*) or upon lozenges (pl. xvi, *ee*). It does not seem necessary to describe the examples of these delightful seals in detail. The various shields of arms upon them can easily be identified by reference to the key to plate xvi.

Reference should, however, be made to the arms, charged upon lozenges around the central shield of Vere, upon the seal of Maud countess of Oxford (pl. xvi, *ee*) which displayed the arms of her paternal and maternal relatives and those of her first husband Robert Fitzpayne. It does not seem that the lozenges had any significance other than the fancy of the engraver seeking for variety in his composition. The same reason probably accounts for the lozenges upon the seal of Joan wife of John of Warenne earl of Surrey, and daughter of Henry count of Bar by his first wife Eleanor, daughter of Edward I and Eleanor of Castile, depicted in fig. 5 from an engraving on plate page 122 of Sandford's *Genealogical History*. It dates about A.D. 1305 and is the earliest of the type known. The central lozenge bore the arms of Warenne, and above and beneath it were the leopards of Edward I and at each side the canting arms of the counts of Bar all charged upon lozenges. In quatrefoils at each of the four corners were the castles and lions of Castile and Leon. It was not usual for ladies any more than men to use lozenges upon which to display their arms, though isolated examples do occur from the late fourteenth century onwards. The fanciful seal of Eleanor, daughter and co-heiress of Humphrey Bohun earl of Hereford, &c., and wife of Thomas of Woodstock duke of Gloucester (pl. xvii, *i*), depicted her husband's and her father's arms impaled upon a lozenge. The custom of displaying the arms of spinsters and widows upon lozenges came into use after 1562, in which year a chapter of the heralds resolved that they should be so displayed.

In 1354 Joan wife of Sir Roger Dakeneye (pl. XVII, *l*) used a lozenge charged with the arms of her husband for her seal; the legend described her as his wife (*ux'is*). A sixteenth-century example is afforded by the seal of Margaret daughter of Sir Thomas Gamage and second wife of William lord Howard of Effingham (pl. XVII, *k*).

Quartered shields. It was not customary for women to use quartered shields of their own arms upon their seals, though they did impale such shields when they were so borne either by their fathers or husbands (pls. XVI, *o*; XVII, *e*). There are, however, a few examples of them used by some who belonged to great families whose arms were considered to be of equal importance with those of their husbands. Thus on the fine figure seal (M. Douët D'Arcq, *Collection de Sceaux*, no. 10018) of Eleanor of Castile the castles and lions of Castile and Leon are arranged on each side of her figure and the quartered shield itself is upon her monument in Westminster Abbey. Philippa of Hainault (pl. XVII, *j*) upon her beautiful privy seal quartered the arms of Hainault with the leopards of the earlier seal of Edward III. Anne of Bohemia, queen of Richard II, upon her equally fine seal (pl. XVI, *t*) impaled the royal shield with the quarterly seal of her father the emperor. Margaret countess of Salisbury (pl. XVII, *m*) displayed the many quarterings of Clarence and Neville upon her shaped Gothic shield. A different style was used by Margaret countess of Shrewsbury (pl. XVII, *g*) whose seal displayed two shields hanging side by side. The dexter bears the Talbot shield of her husband impaled with her own of Beauchamp, the sinister shield bears Beauchamp only with the shield of Berkeley in pretence. The late fifteenth-century seal of Margaret Beaufort (pl. XVII, *d*) used after the death of her husband, Edmund Tudor, left out the Tudor arms entirely and displayed only the royal arms surrounded by the border of Beaufort.

3. *Supporters and badges.* Supporters, at least until the large ornamental seals of the fifteenth century, did not form so important a part of women's seals as they did upon those of men, chiefly because, having neither helms nor crests to display, the shields were not represented couched but standing upright upon their points. There was consequently no comparatively large vacant space to be filled in by the ingenuity or wayward fancies of the seal engraver. The shield was, as we have seen, more often set in the midst of delicate tracery than supported by strange beasts, but there were exceptions which adopted a more masculine style, as illustrated by the following examples. Towards the end of the thirteenth century two ramping lions upheld the shield of Isabel Forz (pl. XVI, *j*) and in the following century two swans steadied the hanging shield of Joan countess of Hereford (pl. XVI, *o*). In the fifteenth century their use became more general and some of the large seals of that time are not to be distinguished from the contemporary seals of men, except that angels with outstretched wings were

more generally used behind the shield with their hands resting on its upper corners. This style was represented by the fine seal of Anne countess of Devon (pl. XVII, *f*) and that of Joan lady of Abergavenny (pl. XVII, *b*). On both these examples the lions of the one and the sitting squirrels of the other were more for ornament than support. The fanciful seal of Eleanor duchess of Gloucester (pl. XVII, *i*) depicted an angel in a boat holding a board charged with the Bohun arms and in front of it a lozenge with the arms of her husband Thomas of Woodstock impaling the Bohun shield of her father. The chained and collared greyhounds on the seal of Beatrice Ros (pl. XVI, *w*) are more truly supporters. The splendidly decorative seals of the latter part of the century were often hung from the neck of an eagle, whose outspread wings enveloped the shield, which was supported by monsters or animals at each side, forming one of the chief motives in the design (pl. XVII, *a*, *d*, *e*). The ornate seal of Elizabeth duchess of Norfolk hung by its straps from clouds and a starry sky whilst two cranes with wings uplifted supported it at each side (pl. XVII, *c*).

The pictorial seal of Margaret Hungerford is in a style by itself. She was represented kneeling in a garden reading from a book upon her lap. A lion on the dexter held a banner of the arms of Hungerford impaling Botreaux and on the sinister a griffin held up a like banner of Beaumont impaling Botreaux (pl. XVII, *h*).

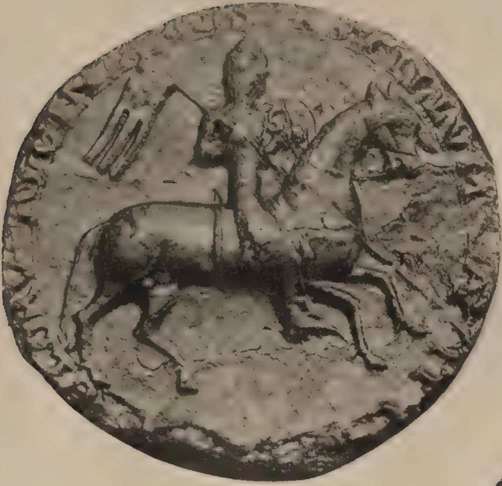
Badges were frequently used upon these seals from about the middle of the thirteenth century. The swords at each side of her figure and at each side of her shield on the seal and counterseal of Emmeline Longespée typified her husband's office of justiciar of Ireland or may only be 'long-swords' (pls. XV, *l*; XVI, *i*). The small fleur-de-lis and leopard in the tracery of the seal of Beatrice countess of Pembroke referred to the royal connexions of her husband (pl. XVI, *p*). The famous swan badge of Bohun appeared on the seal of Joan widow of Humphrey Bohun earl of Hereford (pl. XVI, *o*) and was picturesquely used on that of Eleanor Bohun wife of Thomas of Woodstock (pl. XVII, *i*). The Stafford knot of her father's house gracefully surrounded the seal of Joan daughter of Hugh earl of Stafford and wife of Thomas Holand earl of Kent (pl. XVI, *s*), and the two shields of Margaret daughter of Richard Beauchamp hung from a lopped tree trunk, a badge of the house of Warwick (pl. XVII, *g*). The anchor badge above the shield of Beatrice daughter of Ralph earl of Stafford and wife of Sir Richard Burley (pl. XVI, *w*) is of unknown significance. Their royal rank is indicated by the coronets which ensigned the shields upon the beautiful seals of Anne of Bohemia (pl. XVI, *t*) and Margaret Beaufort (pl. XVII, *d*).

The following abbreviations are used in the keys to the plates

A.C.	Casts in the collection of the Society of Antiquaries.
B.L.	Seals attached to the Baron's letter to the Pope, of February 1300. Published in De Walden Library under the title *Some feudal lords and their seals*, also in the *Ancestor*, vols. VI–VIII.
B.M.	*Catalogue of Seals in the department of MSS. in the British Museum*, by W. de G. Birch. 6 vols.
D.S.	Catalogue of Seals in the treasury of the dean and chapter of Durham. *Archaeologia Aeliana*, 3rd series, vols. VII–XVII.
S.N.D.	Catalogue of Seals published in *Archaeologia Aeliana*, 3rd series, vols. XX and XXI.
P.R.O.	Seals in the Public Record Office.
L.S.	Duchy of Lancaster Deeds L.S. 47

Other references are given in full.

a. David of Scotland, earl of Huntingdon. 1113–24.	D.S. 1420
b. Niel d'Aubigny. *c*. 1120.	D.S. 40
c. Alan III, earl of Richmond. 1137–46, obverse.	D.S. 397
d. Alan III, reverse.	D.S. 397
e. Jordan Foliot. *c*. 1220.	B.M. 9848
f. Philip, son of Hamo (sheriff of Durham). *c*. 1198.	D.S. 1178
g. Osmund, son of Hamo. *c*. 1200.	D.S. 1177
h. Henry of Scotland, earl of Northumberland. *c*. 1140.	D.S. 1900
i. Roger d'Abernon. late 12th century.	B.M. 5594
j. Geoffrey, son of Henry II, duke of Brittany and earl of Richmond. *c*. 1171.	Demay, *Sceaux de Normandie*, 28.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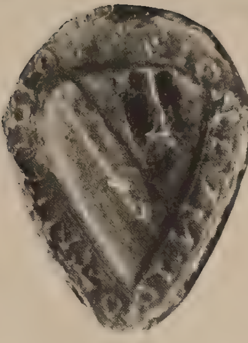
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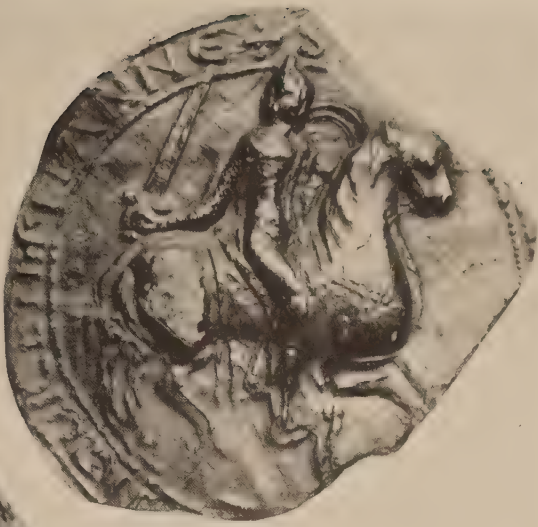
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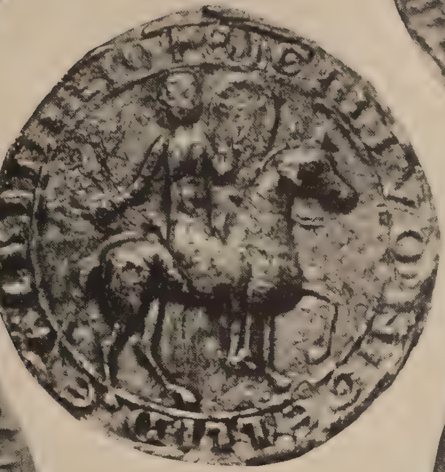
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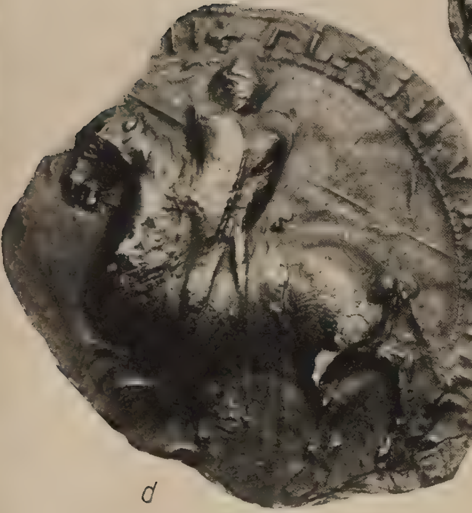
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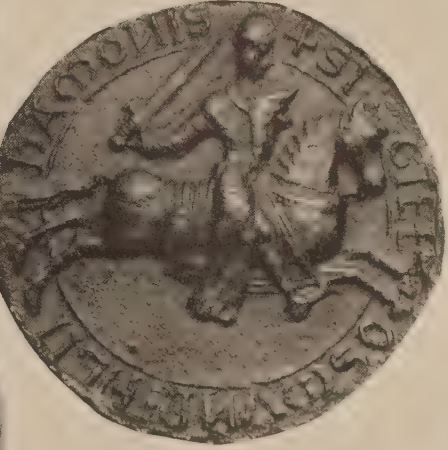
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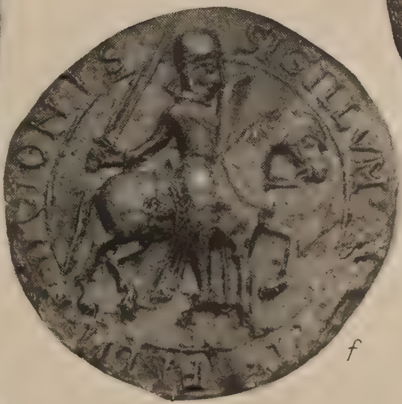
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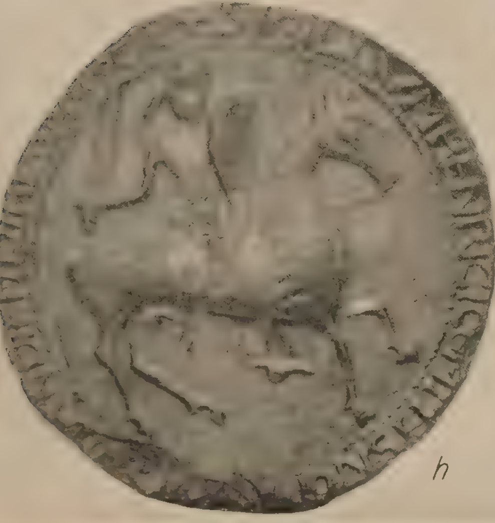
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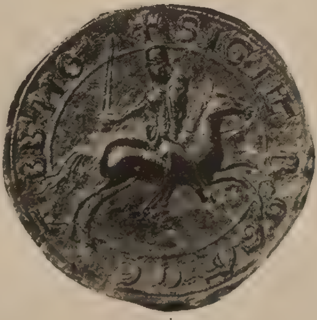
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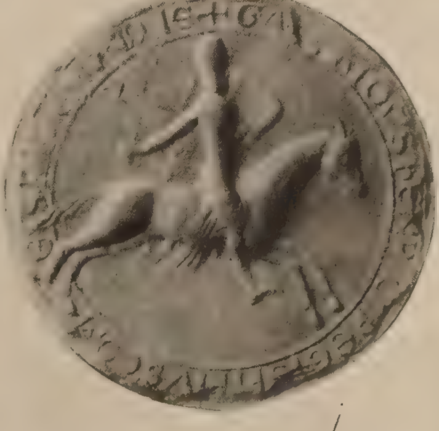
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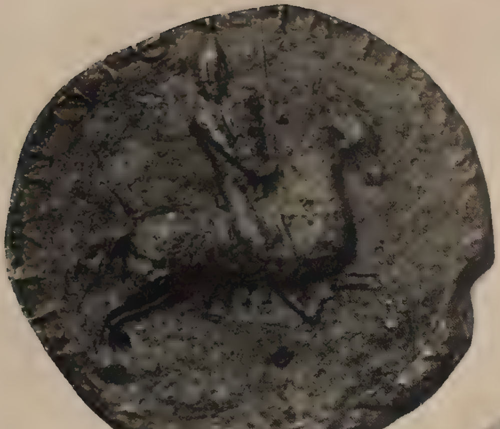
a.	Conan IV, earl of Richmond, obverse. *c.* 1146.	D.S. 398
b.	Waldeve, the earl. *c.* 1160.	D.S. 2551
c.	Richard Malbisse. *c.* 1185.	D.S. 1694
d.	Elie of Pidele. *c.* 1165.	D.S. 1989
e.	Roger of Kibblesworth. *c.* 1180.	D.S. 1502
f.	Roger of Mowbray. *c.* 1145.	D.S. 1837
g.	Gilbert, son of Richard of Clare, earl of Hertford. *c.* 1145.	P.R.O.; L.S. 47
h.	William of Humez. *c.* 1185.	B.M. 6129
i.	William fitz Empress, brother of Henry II. 1156–63.	Northants Records, IV, pl. VI.



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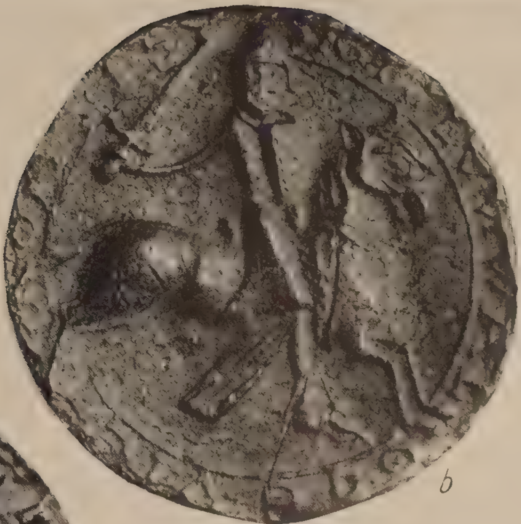

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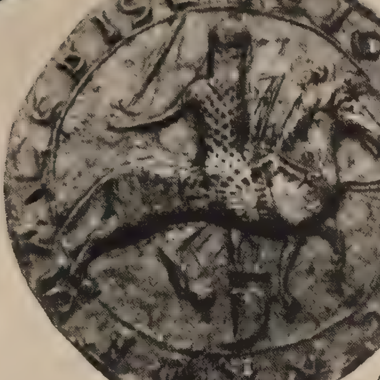

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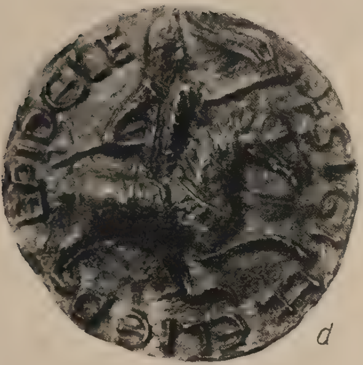

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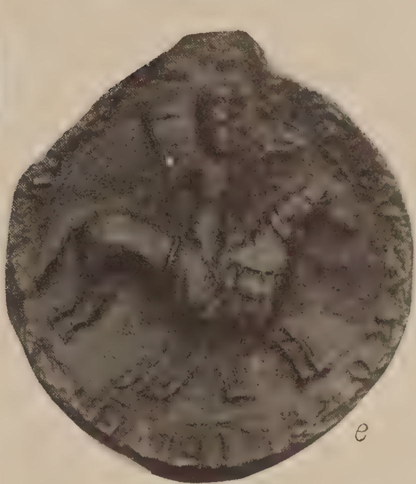

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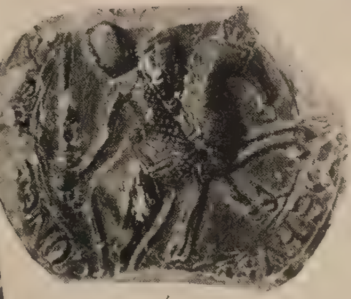

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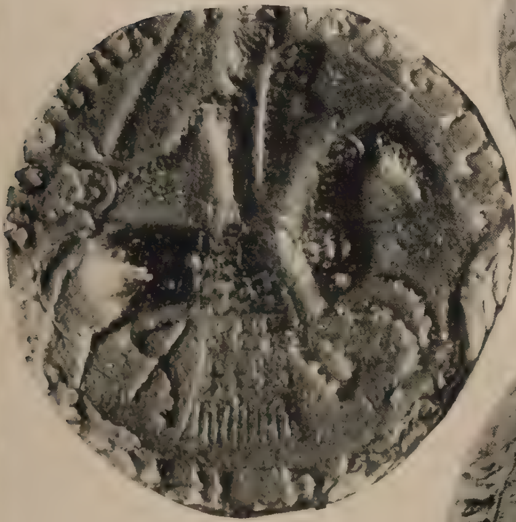

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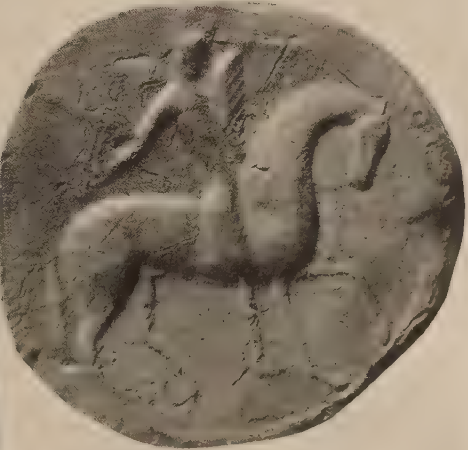

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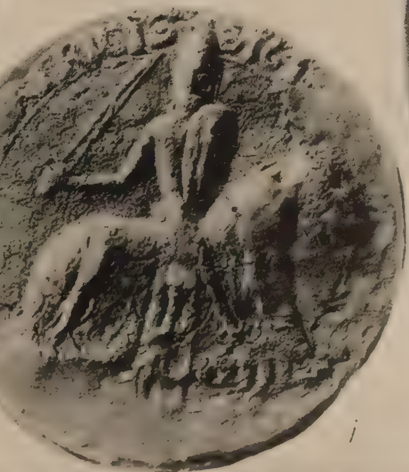
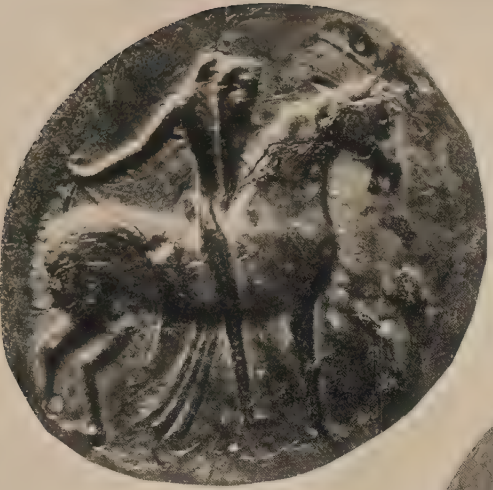


i

Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a. William D'Aubigny, earl of Arundel. *c.* 1180.	B.M. 5604
b. Simon of St. Liz, II, earl of Northampton. *c.* 1147.	B.M. 6403
c. Patric I, earl of Dunbar and March. *c.* 1195.	D.S. 2805
d. William of Warenne, earl of Surrey. *c.* 1202.	B.M. 6524
e. Sayer de Quincy, earl of Winchester. *c.* 1207.	B.M. 6355
f. Richard, earl of Cornwall. *c.* 1230.	B.M. 6328
g. John of Warenne, earl of Surrey. *c.* 1250.	B.M. 6527
h. Sir Hugh Beauchamp. *c.* 1185.	B.M. 5659
i. Henry le Spring of Houghton. *c.* 1270.	D.S. 2286
j. Adam of Killingworth, knt. 14th century.	B.M. 6141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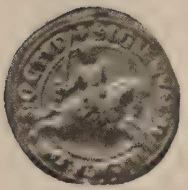
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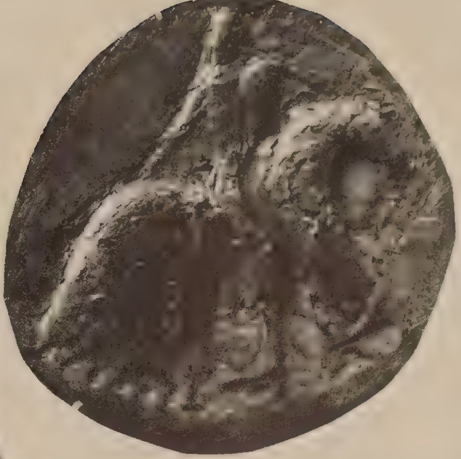
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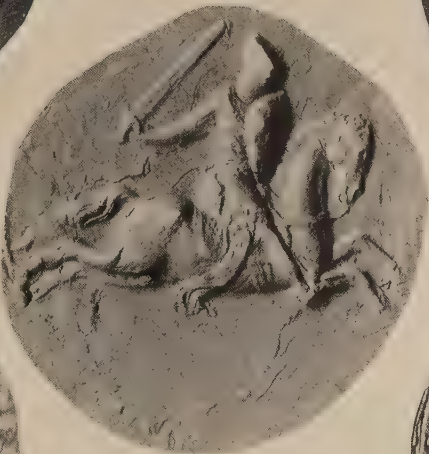
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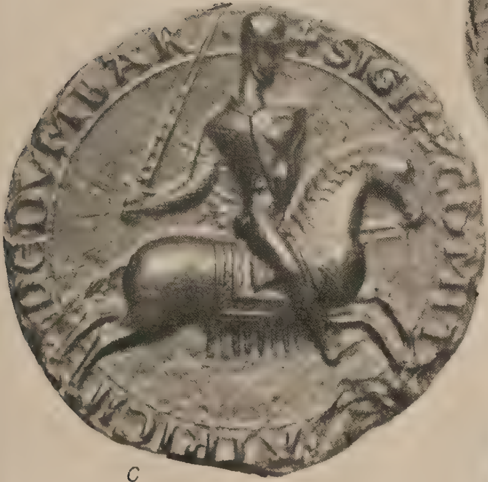
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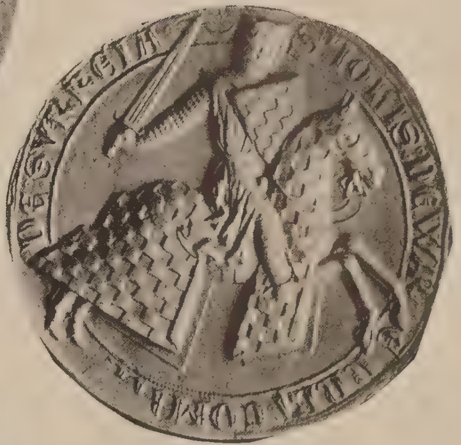
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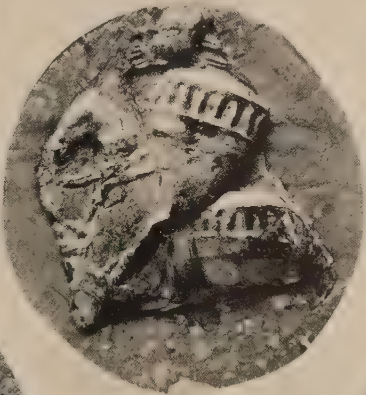
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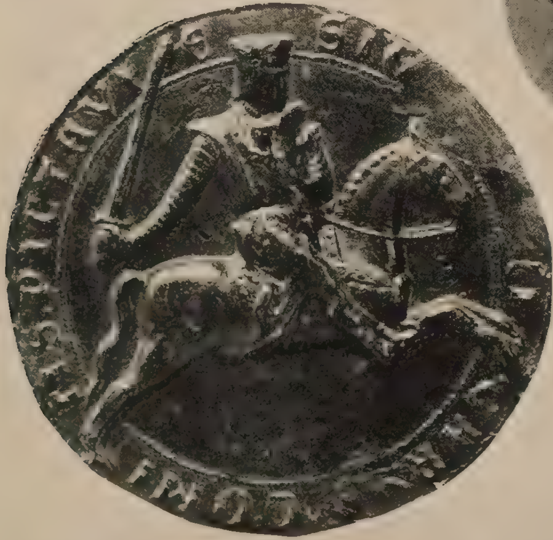
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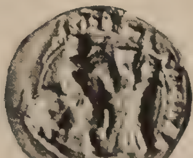
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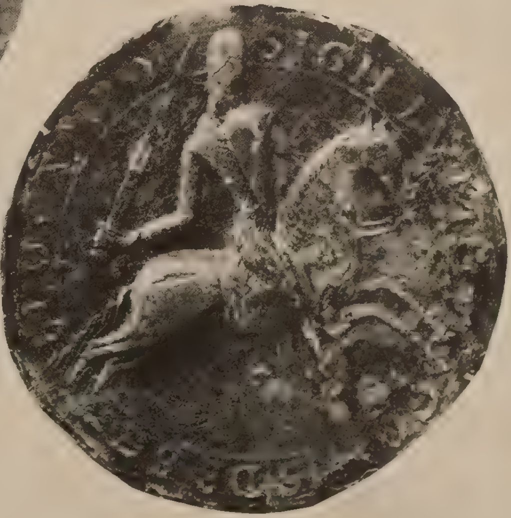
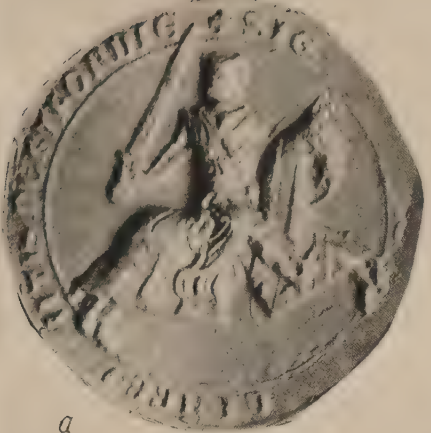

h

a.	Richard of Clare, earl of Gloucester and Hertford. *c.* 1250.	B.M. 5842
b.	Gilbert of Clare, earl of Gloucester and Hertford. 1262–95.	B.M. 5846
c.	Robert of Ferrers, earl of Derby. 1254–78 (*c.* 1265).	B.M. 5908
d.	Robert fitz Roger (Warkworth). 1247–1310 (1296).	Douët d'Arcq, 10191
e.	Robert fitz Walter. 13th cent.	B.M. 6016
f.	Henry lord Percy (reverse VII, *k*). 1300.	B.L.
g.	Peter, III, lord Mauley. 1300.	B.L.
h.	Thomas, earl of Lancaster. *c.* 1296.	B.L.
i.	John St. John of Halnake. *c.* 1300.	B.L.
j.	Aymer de Valence, earl of Pembroke. 1307–24.	P.R.O., B.S. 87
k.	Patrick of Dunbar, V, earl of March (reverse VII, *l*). 1309–68 (1367.)	D.S. 2814
l.	Thomas Beauchamp, earl of Warwick. 1344.	B.M. 5662



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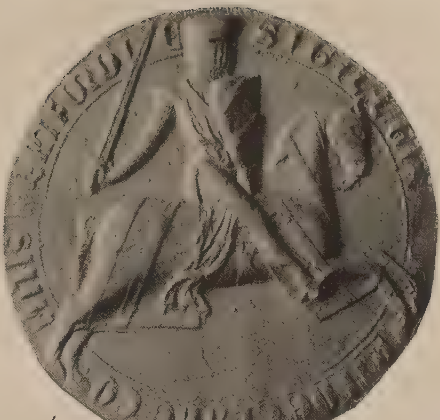

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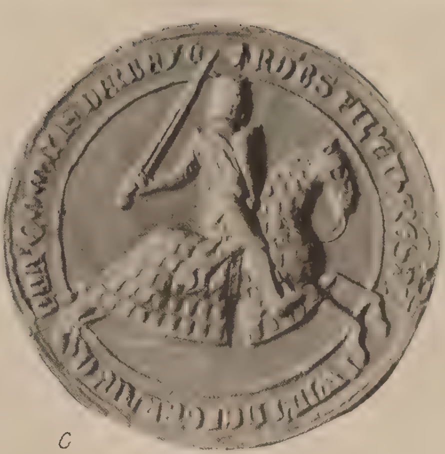

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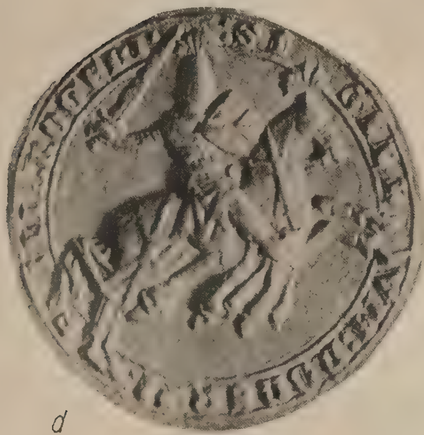

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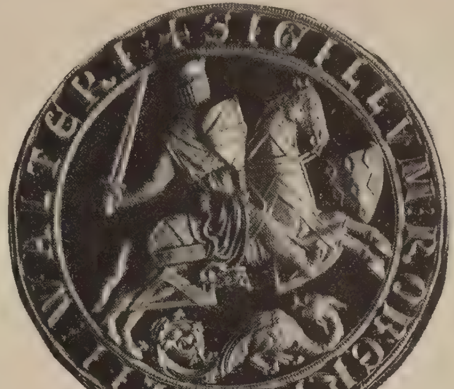

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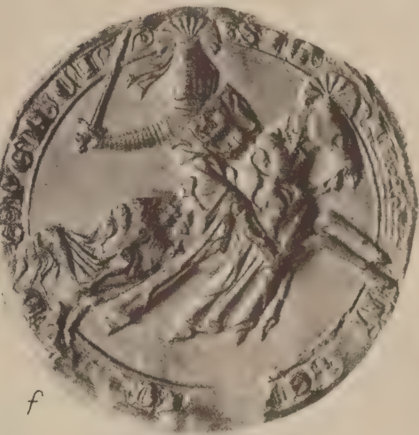

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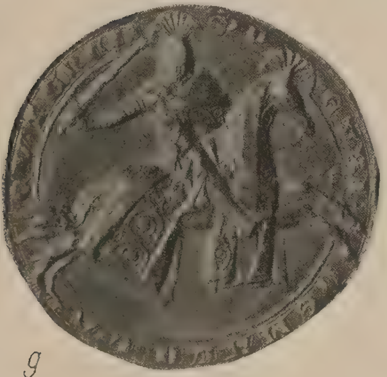

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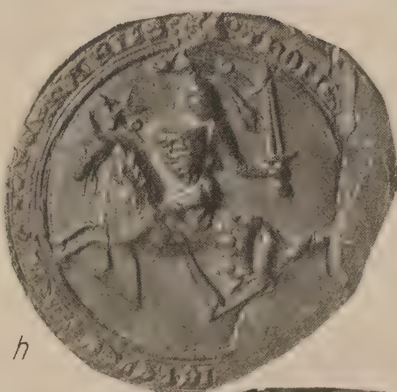

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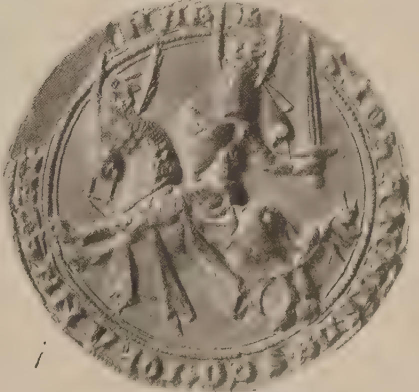

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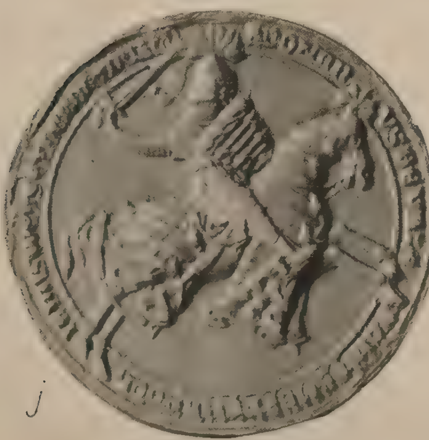

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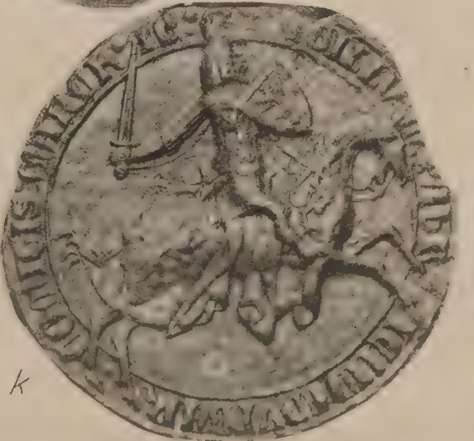

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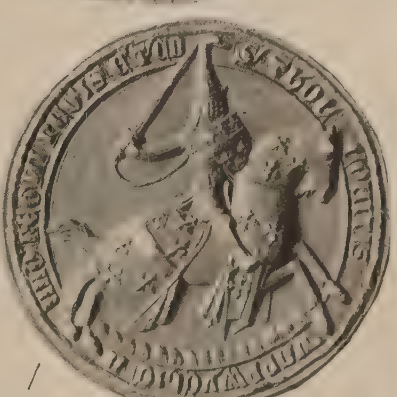
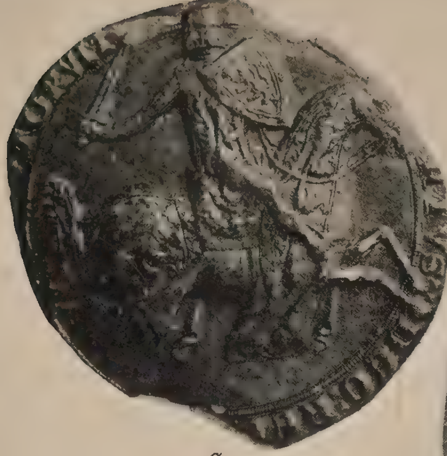


l

a. Robert I, King of Scots. 1318.	D.S. 3082
b. John Fordham, bishop of Durham. 1382.	D.S. 3142
c. Thomas Langley, bishop of Durham. 1406.	D.S. 3149
d. Henry VI, for Durham, *sede vacante.* 1437.	D.S. 3044
e. Jasper Tudor, earl of Pembroke. 1459.	B.M. 6483
f. Sir Thomas Grey. 1346.	D.S. 1112
g. Richard Fox, bishop of Durham. 1494.	D.S. 3164
h. Simon de Montfort. late 12th century.	B.M. 6234
i. Henry Hastings, earl of Huntingdon, reverse. 1631.	B.M. 6097
j. Peter de Montfort, counterseal. *c.* 1260. (obverse VII, *h.*)	B.M. 11,873



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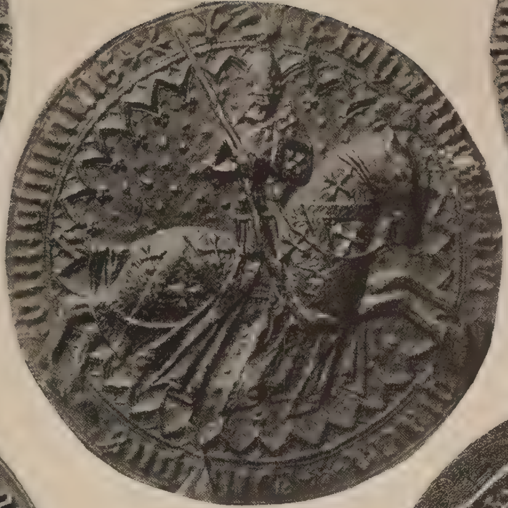

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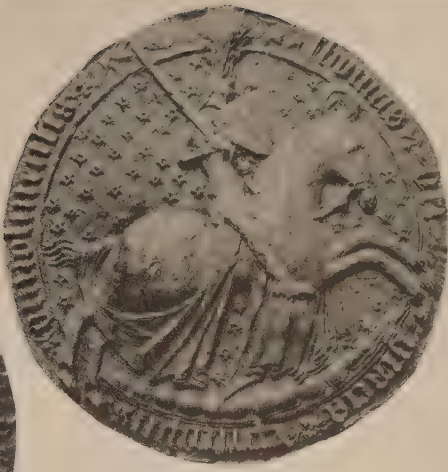

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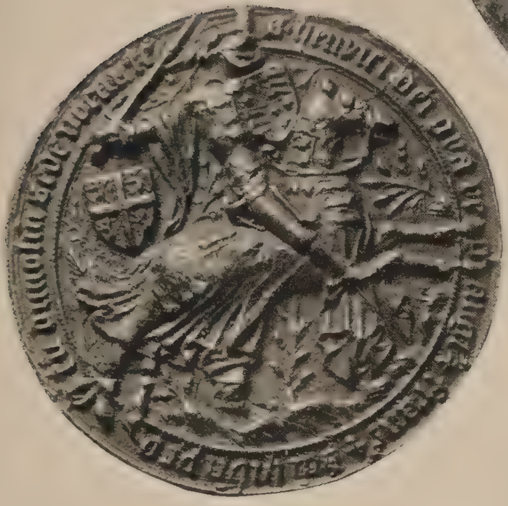

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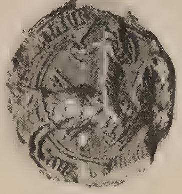

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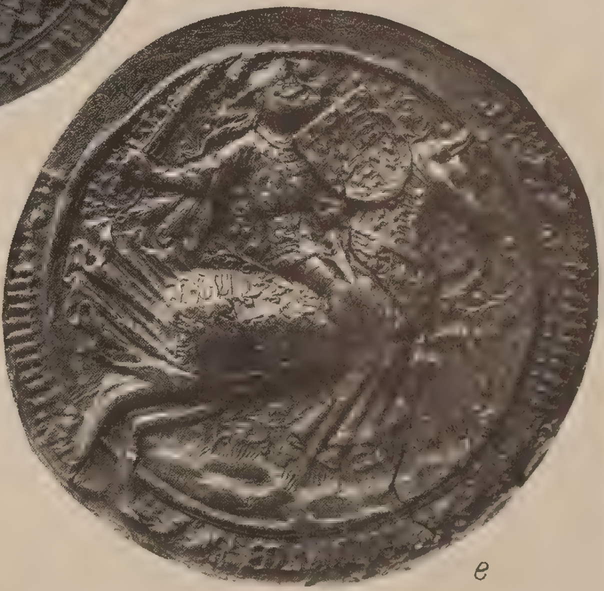

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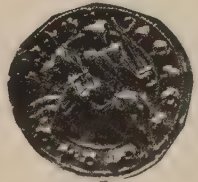

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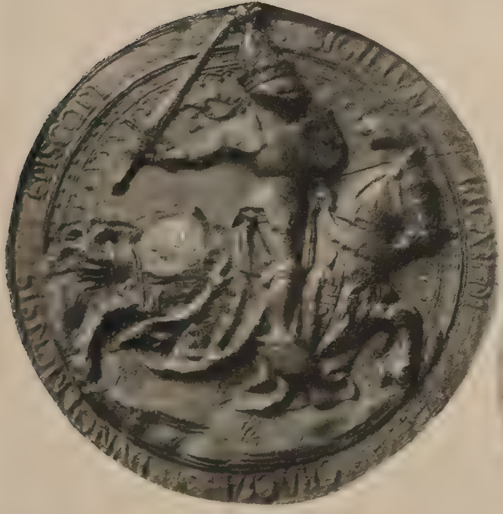

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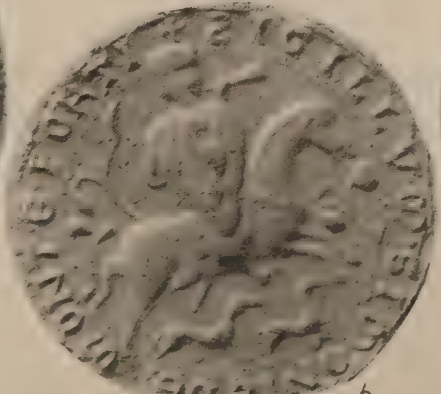

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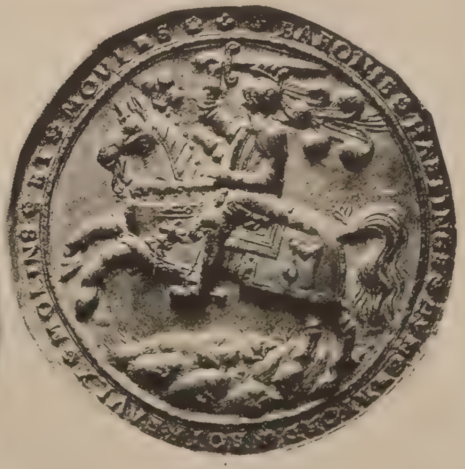
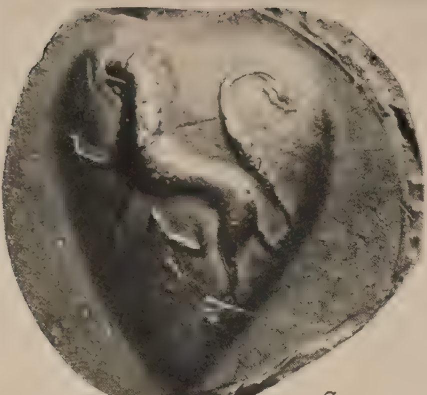


i

a.	Ranulph of Blundeville, earl of Chester. *c*. 1190.	D.S. 584
b.	Roger of Lacey. *c*. 1195.	B.M. 11,198
c.	Robert Brus, lord of Hart and Annandale. *c*. 1195.	D.S. 443
d.	Robert, son of Meldred. *c*. 1195.	D.S. 1742
e.	Gilbert Hansart, son of Meldred. *c*. 1195.	D.S. 1184
f.	Robert of Pinkney. *c*. 1195.	B.M. 12,646
g.	John, son of Michael. *c*. 1195.	B.M. 9747
h.	William of Warenne, earl of Surrey, reverse. *c*. 1202.	B.M. 6524
h^a.	Gilbert of Clare, earl of Hertford, counterseal. *c*. 1218.	B.M. 5834
i.	Simon of Kyme. *c*. 1215.	B.M. 9852
j.	Philip of Ulcotes. *c*. 1215.	D.S. 2503
k.	Geoffrey of Mandeville, earl of Essex. *c*. 1210.	B.M. 11,562
l.	William of Vesci. *c*. 1230.	D.S. 2540
m.	Richard of Waren. *c*. 1195.	B.M. 14,270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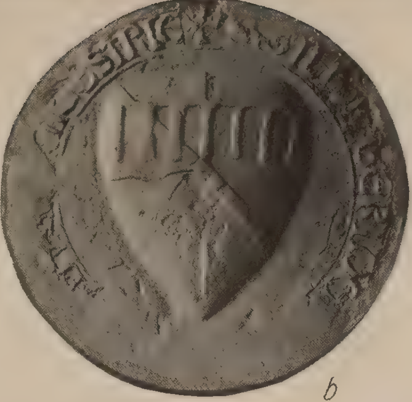
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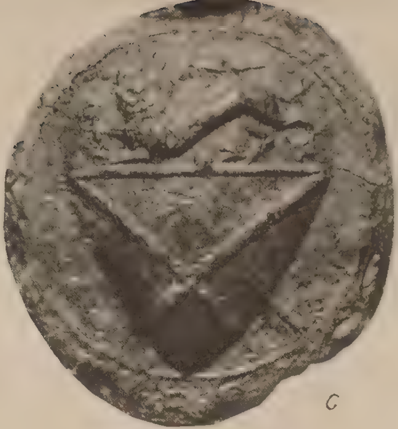
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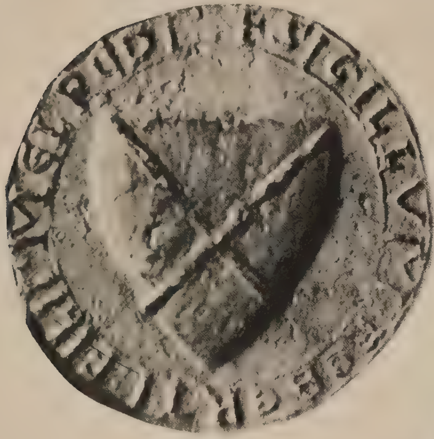
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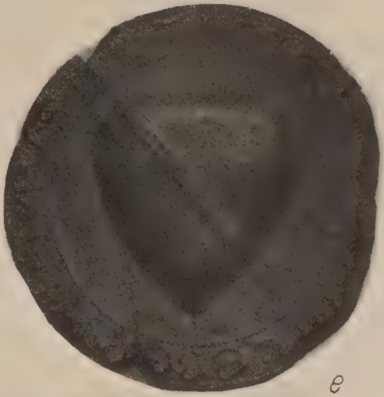
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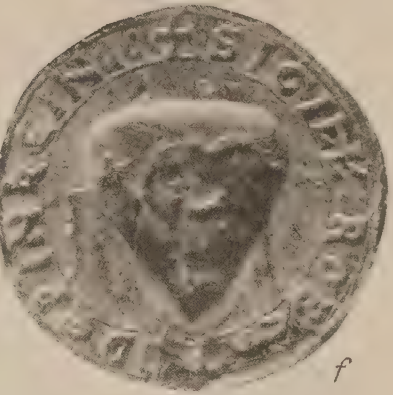
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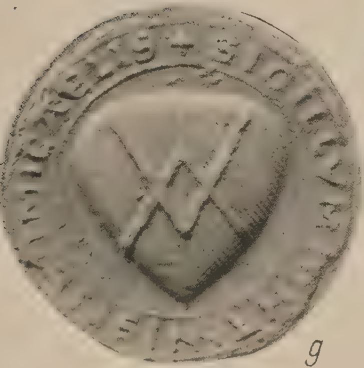
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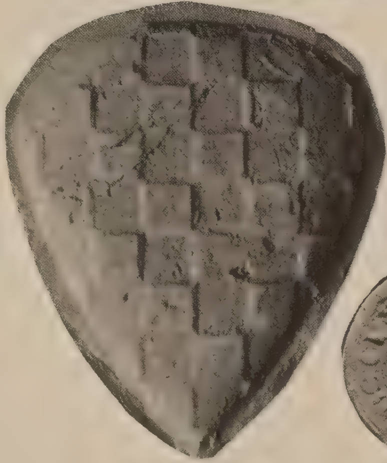
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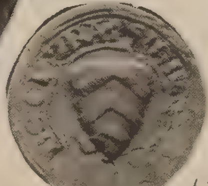
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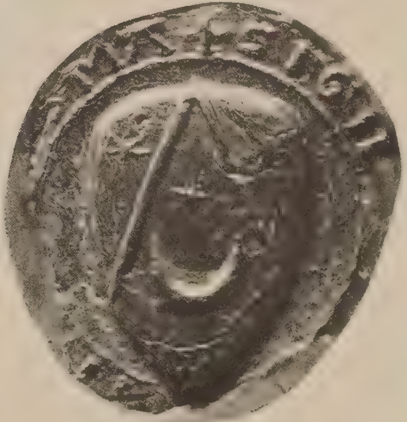
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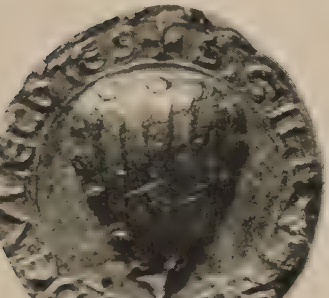
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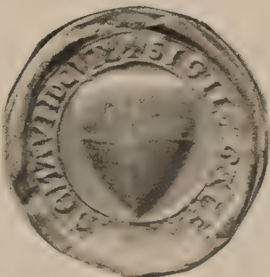
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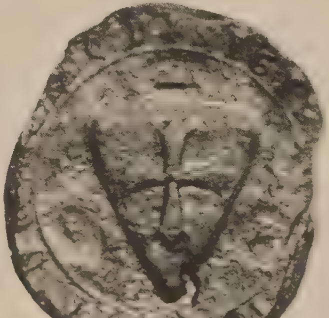
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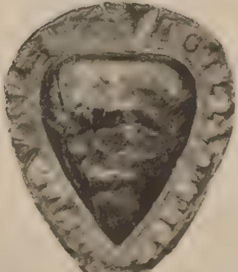
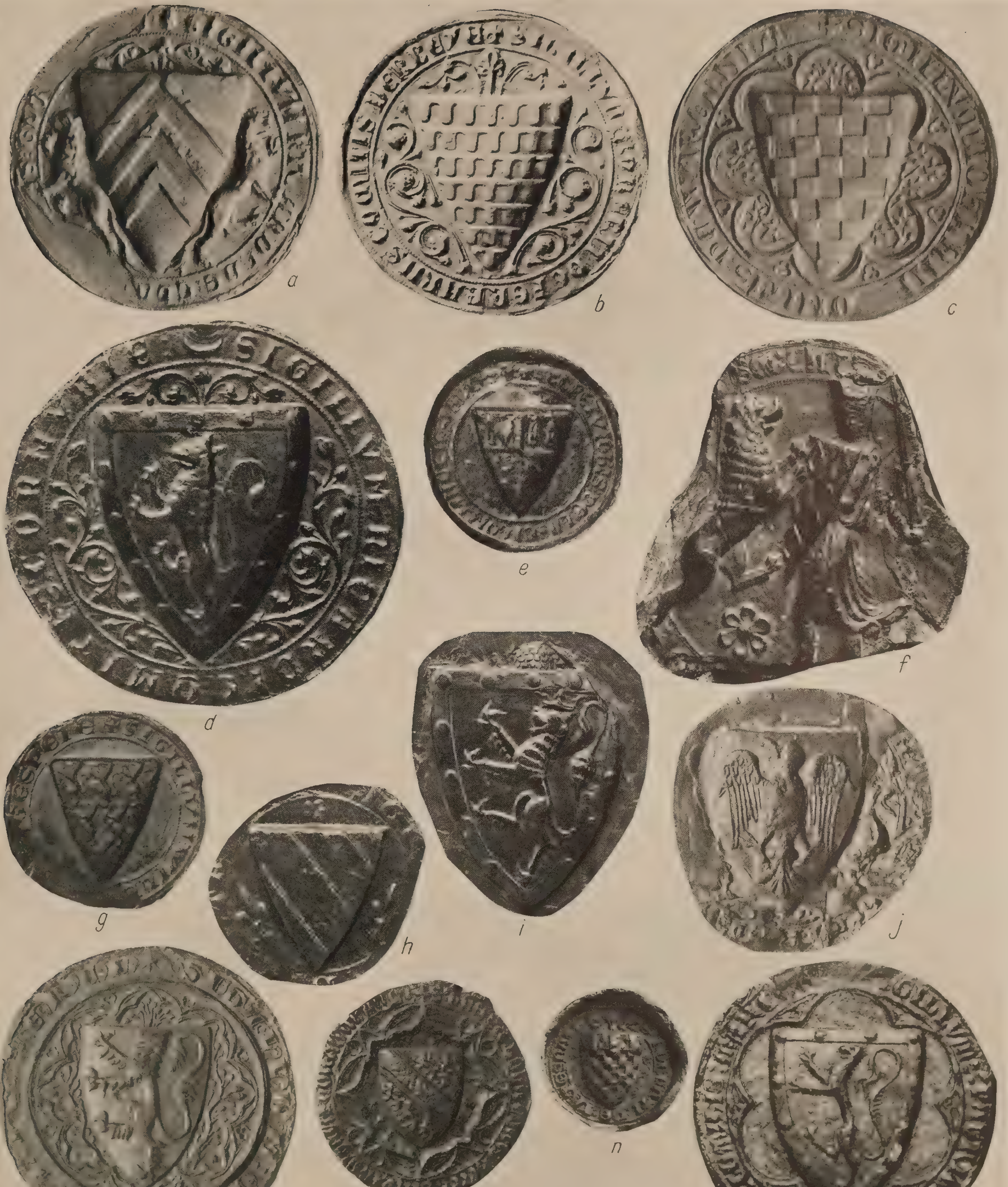

m

Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

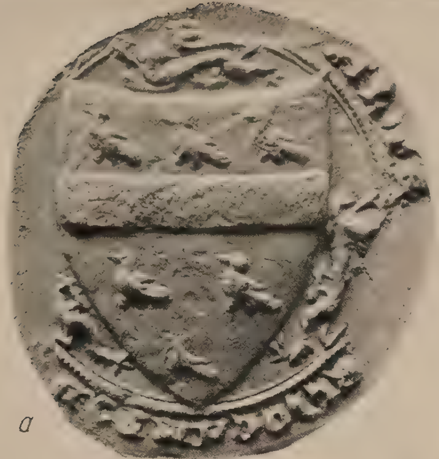
a. Richard of Clare, earl of Hertford, reverse. *c*. 1250.	B.M. 5842
b. Robert of Ferrers, earl of Derby, reverse. *c*. 1265.	B.M. 5908
c. John of Warenne, earl of Surrey, reverse. *c*. 1250.	B.M. 6527
d. Richard, earl of Cornwall, reverse. *c*. 1235.	B.M. 6328
e. John of Lacey, earl of Lincoln. *c*. 1235.	B.M. 11,195
f. Roger of Quincy, earl of Winchester. *c*. 1235.	D.S. 2045
g. William Longespee. *c*. 1245.	B.M. 11,464
h. Peter of Montfort (counterseal, V, *j*). *c*. 1260.	B.M. 11,873
i. Edmund, earl of Cornwall, reverse. *c*. 1272.	B.M. 6308
j. Ralph of Monthermer, earl of Gloucester, reverse. *c*. 1298.	B.L.
k. Henry, lord Percy, reverse (obverse IV, *f*). *c*. 1300.	B.L.
l. Patrick of Dunbar, earl of March, reverse. *c*. 1345.	D.S. 2814
m. Humphrey Bohun, earl of Hereford. *c*. 1362.	P.R.O., B.S. 422
n. Robert of Tateshall. *c*. 1300.	B.M. 13,873

PLATE VII



Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a. Walter Beauchamp. 1300.	B.L.
b. Jordan Ridell. *c*. 1230.	D.S. 2085
c. Simon, lord Montagu. 1300.	B.L.
d. John of Gaunt as King of Castile. 1386.	B.M. 12,694
e. Rev. seal for Common pleas, Henry VIII. 1542.	D.S. 3056
f. William Herbert, earl of Pembroke. 1468.	A.C. 4
g. Philip of Somerville. 1340.	D.S. 2271
h. Privy seal of Edward I. 1290.	B.M. 709
i. Thomas, lord Wake of Liddell. 1318.	D.S. 2547
j. Privy seal of Edward III. 1362.	P.R.O., W.S. 277
k. Anthony Browne, lord Montagu. 1567.	B.M. 9858
l. Sir Robert Bertram. 1262.	P.R.O., A 4769
m. Robert of Stockport. 1260.	D.S. 2325
n. William of Braose. 1324.	A.C.
o. Thomas Furnival. *c*. 1275.	B.M. 9981
p. Thomas Roscelin. 1334.	B.M. 13,117
q. Robert Fitz Payne. *c*. 1299.	B.M. 9751
r. Thomas of Ferrers. *c*. 1278.	B.M. 9680
s. William Dacre, lord Greystoke. 1531.	B.M. 9161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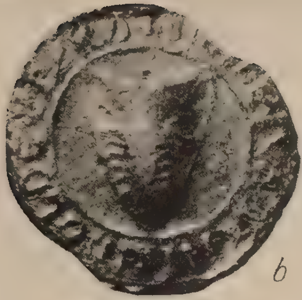
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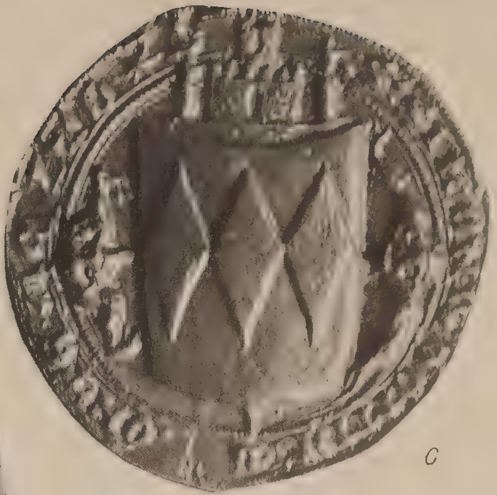
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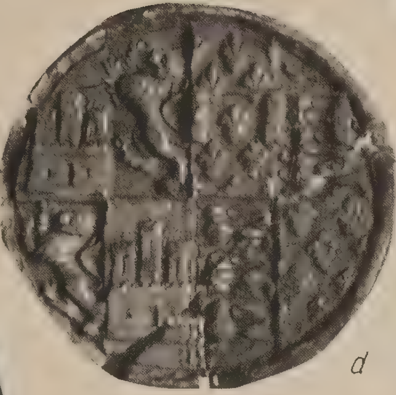
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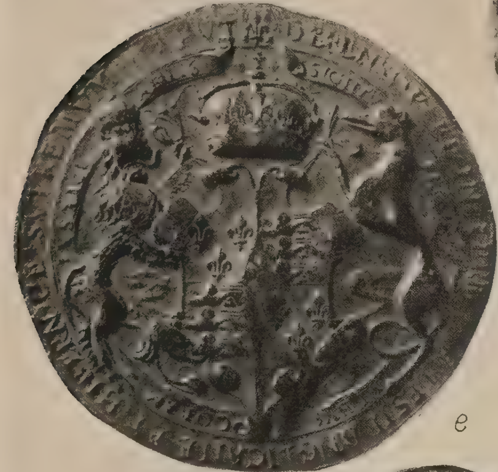
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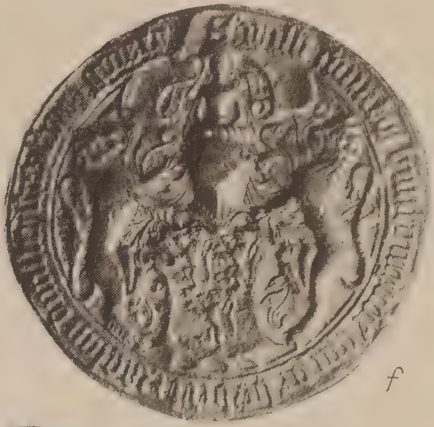
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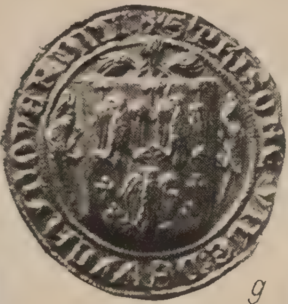
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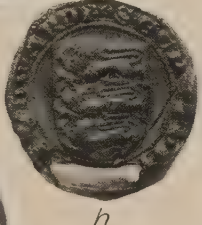
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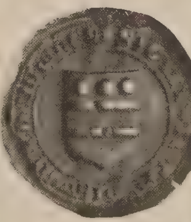
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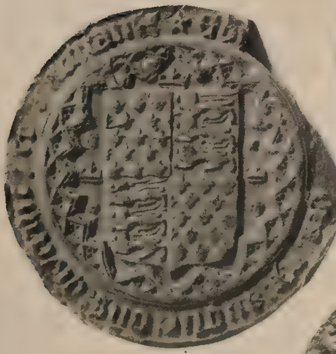
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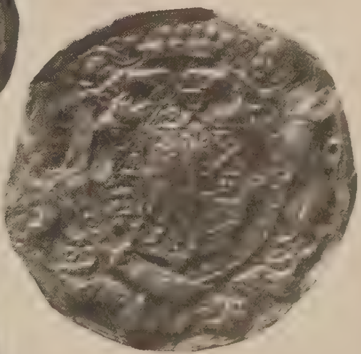
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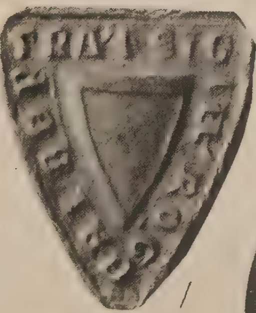
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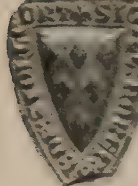
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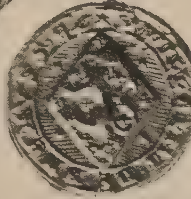
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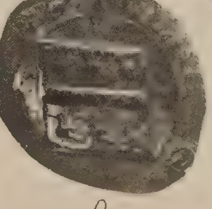
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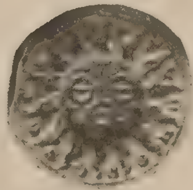
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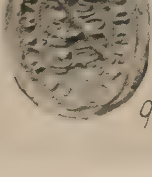
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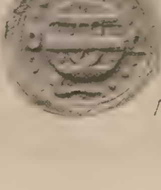
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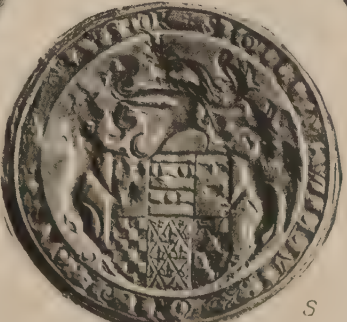
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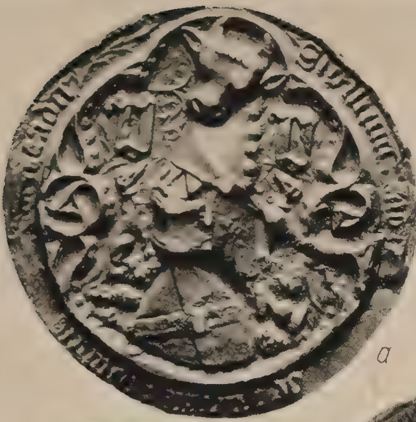
Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a.	Ralph Neville, earl of Westmorland. 1397–1425 (1402).	S.N.D. 577
b.	Robert Neville, bishop of Durham. 1438–57.	A.C.
c.	Privy seal of Richard II. 1378.	P.R.O., W.S. 630
d.	Henry Percy, earl of Northumberland. 1377–1407 (*c*. 1380).	P.R.O., Ex.Q.R., 531/29
e.	Henry Percy, earl of Northumberland. 1400.	D.S. 1963
f.	Henry Percy as warden of the East March in his father's lifetime. ob. 1461	D.S. 1965
g.	William, lord la Zouche. *c*. 1430.	B.M. 14,704
h.	Alexander Neville. 1367.	B.M. 12,089
i.	Sir Reynold Cobham. 1412.	B.M. 8744
j.	Thomas Holand, K.G., earl of Kent. 1320–60 (1357).	B.M. 10,914, A.C.
k.	Ditto. Ditto. 1354.	B.M. 10,771, A.C.
k^a.	Ditto. Ditto. 1341–3.	D.S. 1366
l.	John, lord Bourchier. *c*. 1393.	Cast. P.R.O.
m.	Hugh Baliol. *c*. 1269.	Balliol Coll. D 6/30
n.	Robert of the Monastery (Musters). *c*. 1220.	D.S. 1854
o.	Privy seal of Edward III. 1340.	P.R.O., LS. 303
p.	Richard, earl of Arundel. 1331–76.	P.R.O.
q.	Thomas Chaworth. 1419.	B.M. 8515
r.	William Hoo. 1427.	B.M. 10,810
s.	Peter III, lord Mauley. 1300.	B.L.
t.	Guy Darrayns. 1299.	D.S. 770
u.	Geoffrey Neville. 1254.	D.S. 1872
v.	Gilbert Lindsay. 1319.	B.M. 11,492
w.	William of Kyme. 1256.	B.M. 11,157
x.	Sir Hugh Courtenay. 1298.	B.M. 9010

NOTE, k^a. This seal has been inadvertently illustrated upside down.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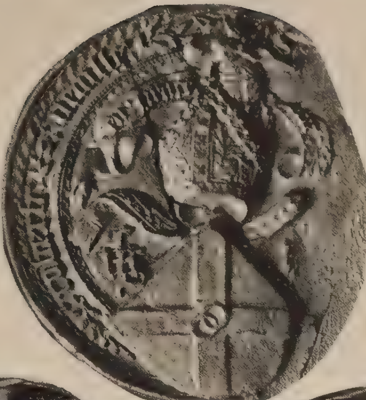
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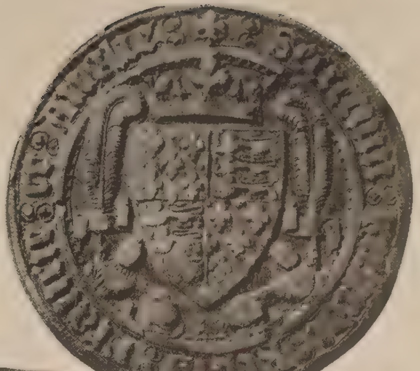
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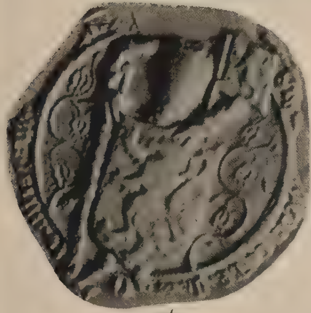
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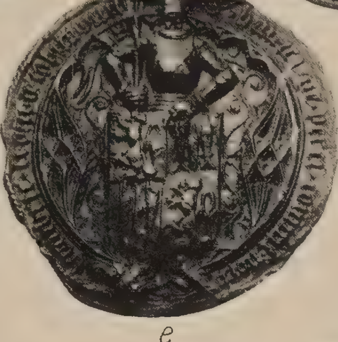
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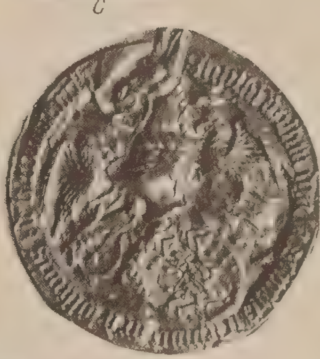
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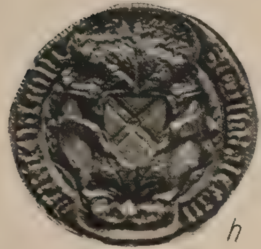
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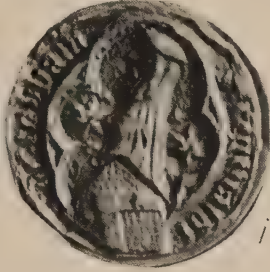
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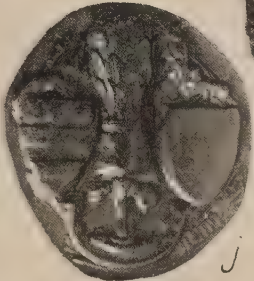
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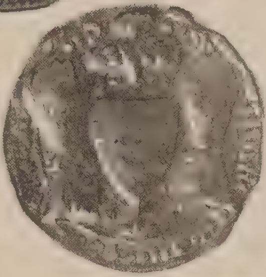
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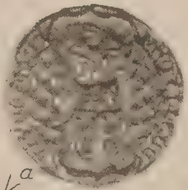
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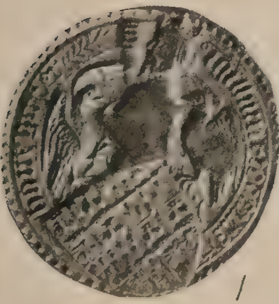
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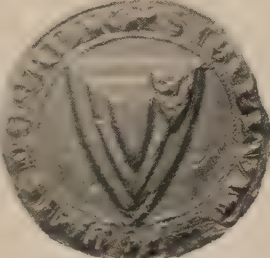
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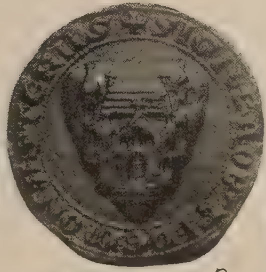
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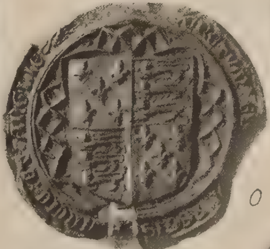
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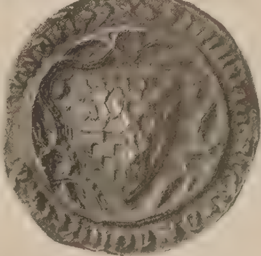
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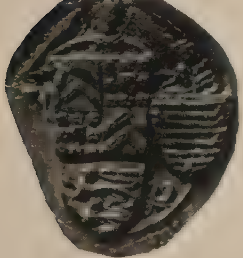
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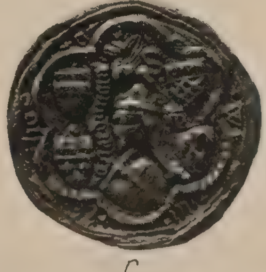
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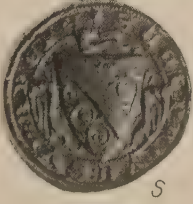
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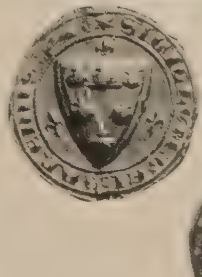
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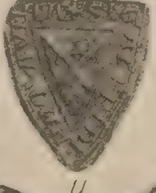
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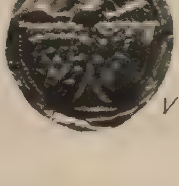
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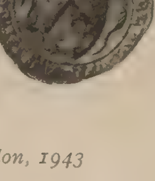
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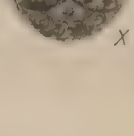
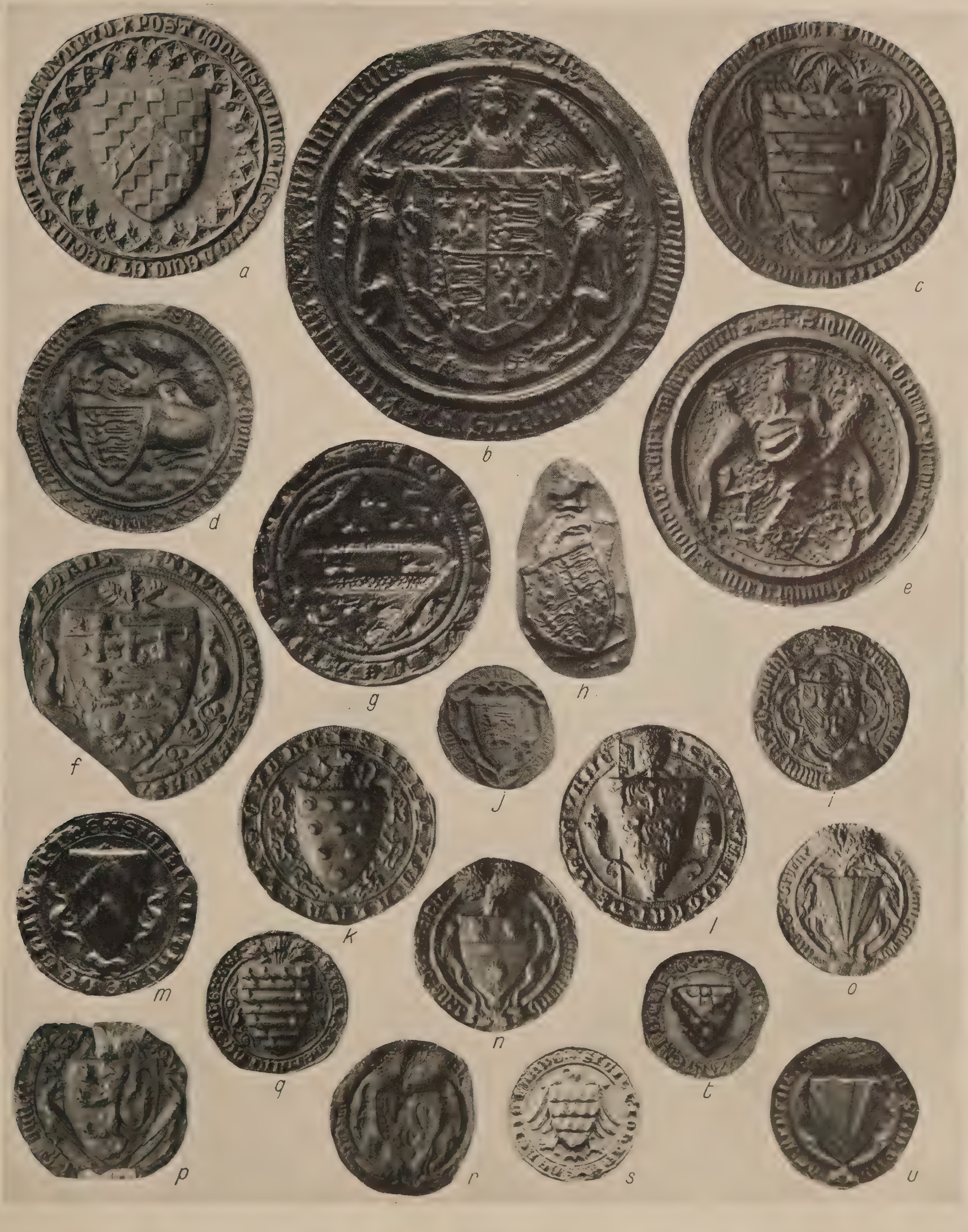

x

Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

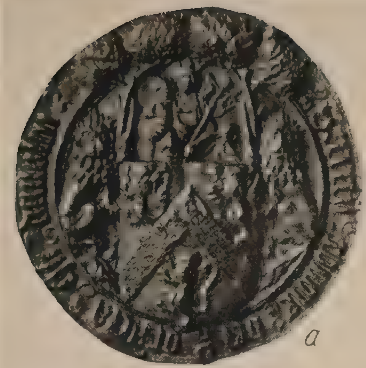
a. Thomas Beauchamp, earl of Warwick, reverse. 1344.	B.M. 5662
b. Jasper Tudor, earl of Pembroke, reverse. 1459.	B.M. 6483
c. Aymer of Valence, earl of Pembroke, reverse. *c.* 1320.	P.R.O., B.S. 87
d. Thomas Holand, earl of Kent. 1386.	D.S. 1489
e. Henry Percy, earl of Northumberland. 1416.	D.S. 1964
f. Thomas, earl of Lancaster, reverse. *c.* 1296.	B.L.
g. William Pagnell. *c.* 1300.	B.L.
h. John Beaufort, earl of Somerset. *c.* 1399.	B.M. 7282
i. Thomas, lord Ros of Hamlake. 1370.	B.M. 13,088
j. William of Felton. 1340.	Balliol Coll. E 7/5
k. Alan la Zouche. *c.* 1300.	B.M. 14,677
l. Roger Leybourne. *c.* 1280.	B.M. 11,337
m. Thomas Chaworth. 1284.	B.M. 8513
n. Michael de la Pole. 1384	B.M. 12,755
o. Guy, lord Bryan. 1381.	B.M. 7900
p. Henry, lord Percy. 1358.	P.R.O., B.S. 422
q. Aymer of Valence. 1301.	B.M. 14,076
r. Guy, lord Bryan. 1369.	B.M. 7894
s. John Beauchamp. 1336.	B.M. 7243
t. Walter of Clifford. *c.* 1360.	B.M. 8670
u. John de la Warre. 1393.	B.M. 14,283



Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a. Thomas Hatfield, bishop of Durham. 1346. Privy seal.	D.S. 3139
b. Archibald, earl Douglas. 1406.	D.S. 2796
c. Archibald, earl Douglas. 1413.	D.S. 2797
d. Robert, lord Willoughby. 1382.	D.S. 2664
e. Henry, earl of Lancaster. 1300.	B.M. 11,211
f. William, lord Hastings. 1469.	B.M. 10,547
g. John Fitzalan, earl of Arundel. 1431.	B.M. 1708
h. Edward Courtenay, earl of Devon. 1396.	B.M. 9007
i. Thomas le Despenser, earl of Gloucester. 1397.	B.M. 9283
j. William Montagu, earl of Salisbury. 1380.	B.M. 11,861
k. Sir John Lumley. 1418.	D.S. 1659
l. John, duke of Bedford. 1413.	D.S. 3066
m. Bartholomew, lord Burghersh. 1398.	A.C.
n. Sir Geoffrey Luttrell. 1417.	B.M. 11,476
o. John Bohun, earl of Hereford, &c. 1326.	B.M. 7547
p. Sir Ralph Hastings. 1374.	S.N.D. 366
q. John Warenne, earl of Surrey. 1338.	B.M. 14,268
r. Sir Hugh Courtenay, earl of Devon. 1341.	B.M. 9012
s. Henry Sturmy. 1355.	B M. 13,754

PLATE XI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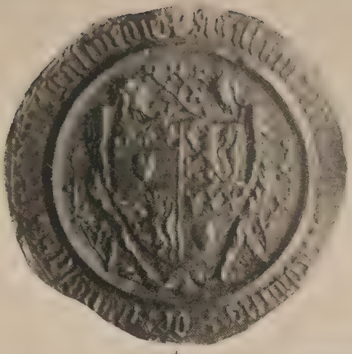
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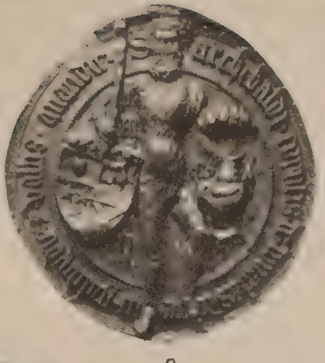
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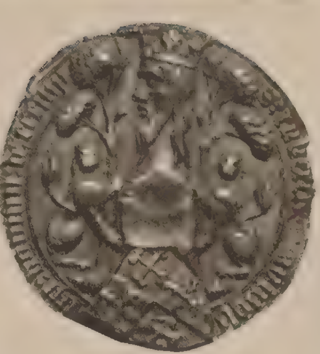
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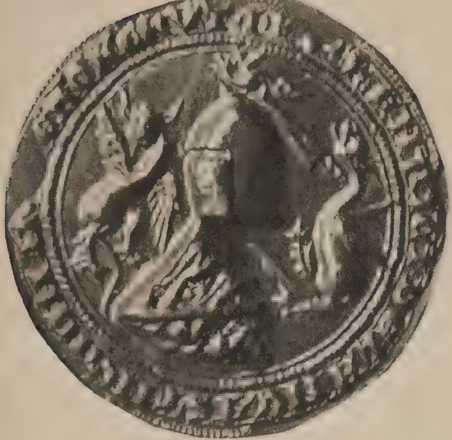
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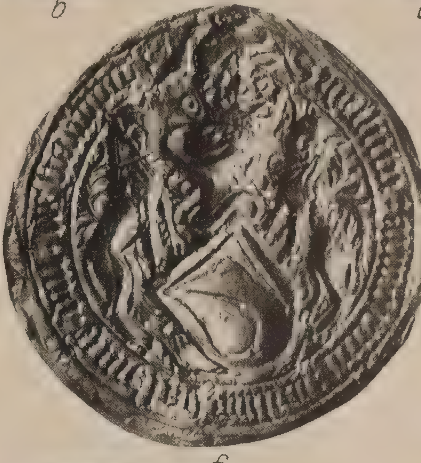
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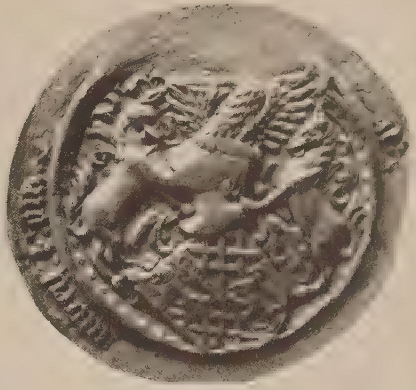
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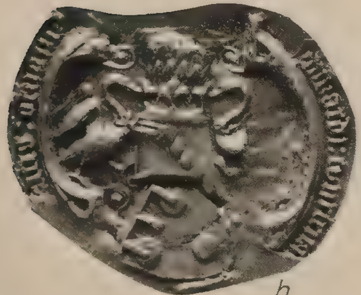
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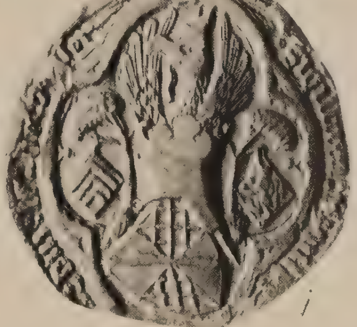
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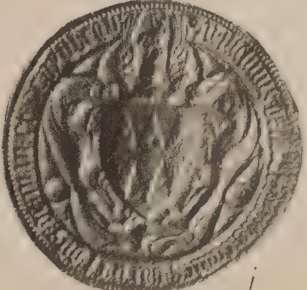
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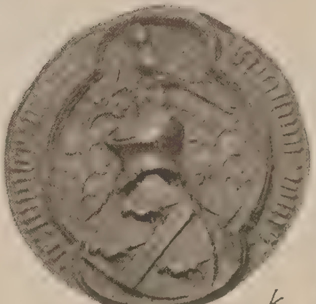
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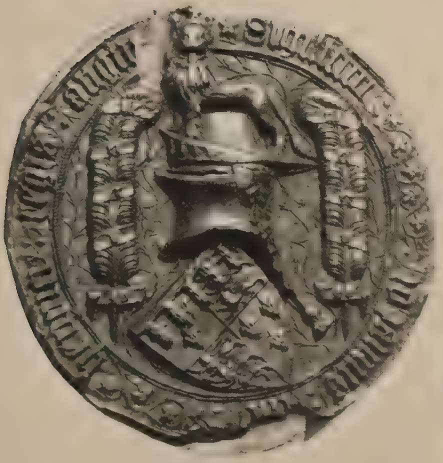
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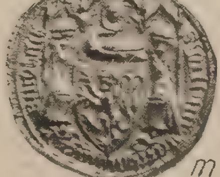
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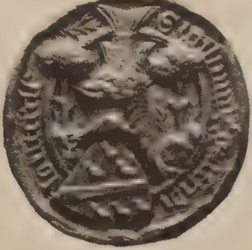
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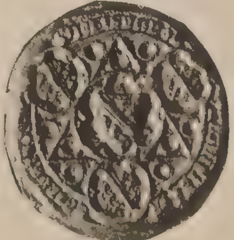
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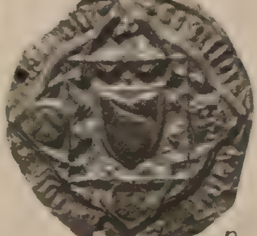
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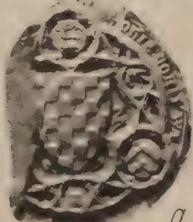
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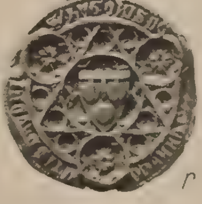
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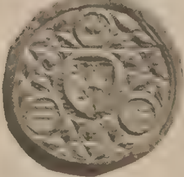
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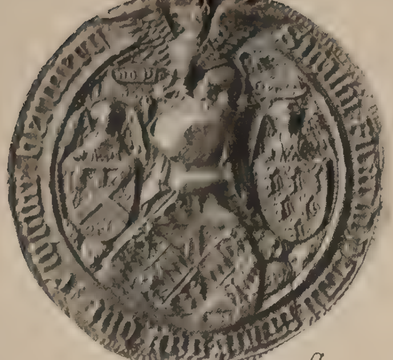
Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a. Richard Neville, earl of Salisbury. 1430.	A.C.
b. John Mowbray, duke of Norfolk. *c*. 1440.	B.M. 12,000
c. Thomas, lord Ros. *c*. 1429.	B.M. 13,091
d. Henry Percy, earl of Northumberland. 1528.	P.R.O., B.S. 405
e. John Dudley, duke of Northumberland. 1521.	B.M. 9345
f. Elizabeth, Treasury seal. 1563.	B.M. 839
g. Edmund Beaufort, duke of Somerset. 1448–55.	B.M. 7278
h. Richard Fitzalan, earl of Arundel. 1375.	B.M. 9716
i. Henry, lord Percy. *c*. 1341.	P.R.O., W.S. 369
j. Humphrey Stafford, earl of Stafford. *c*. 1442.	B.M. 13,636
k. Richard Beauchamp, earl of Warwick. *c*. 1425.	Cast. P.R.O.
l. Humphrey Stafford, earl of Stafford. 1429.	B.M. 13,632

PLATE XII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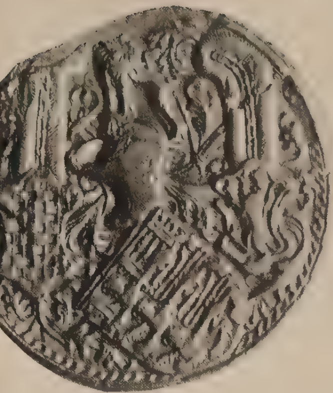
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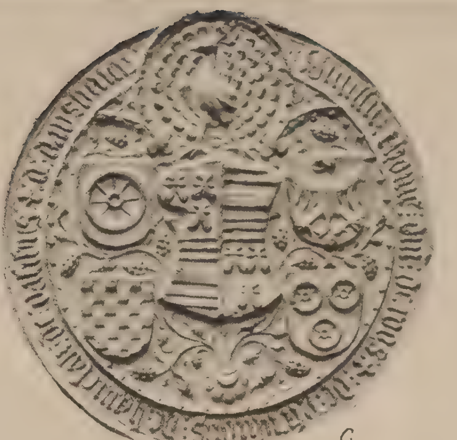
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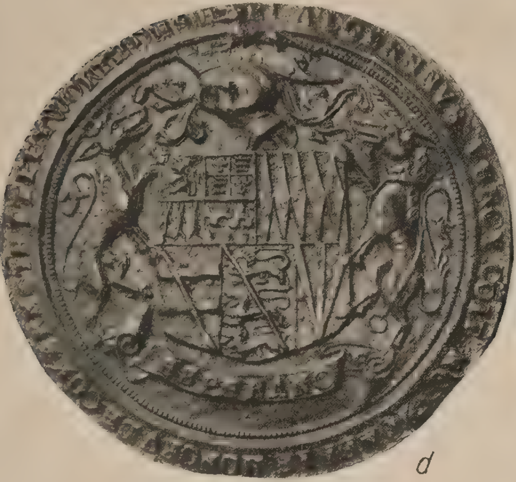
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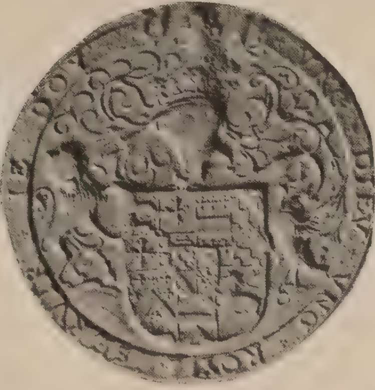
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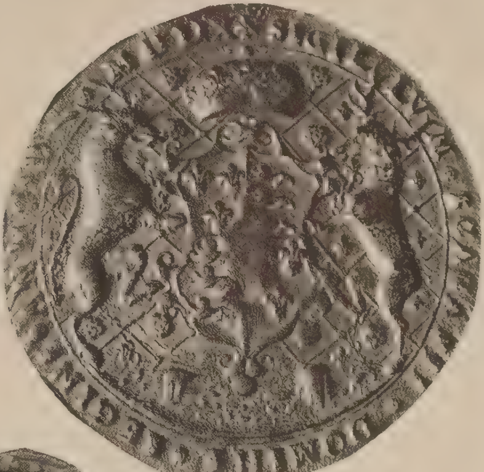
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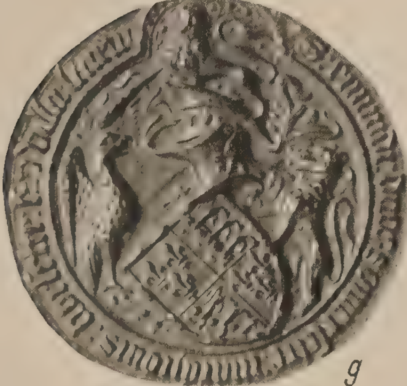
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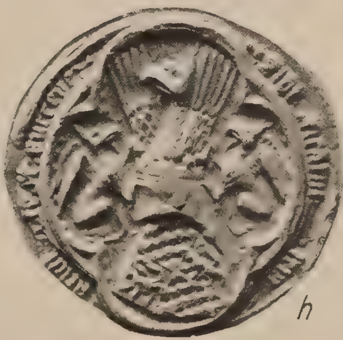
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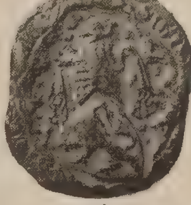
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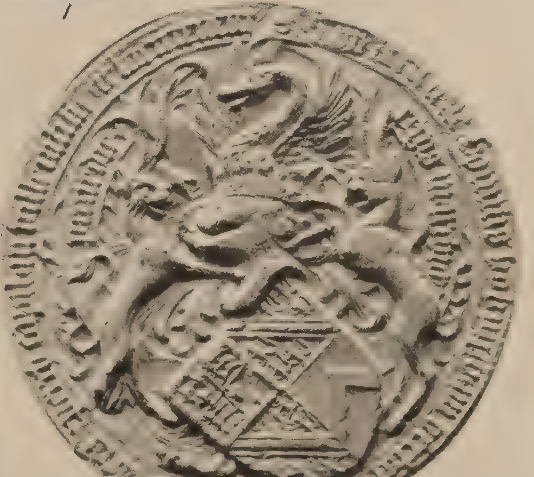
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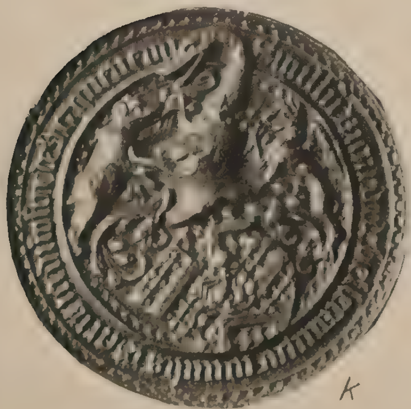
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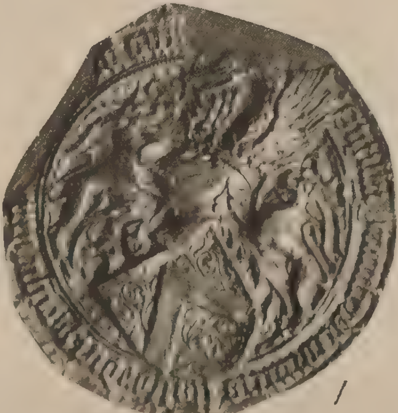
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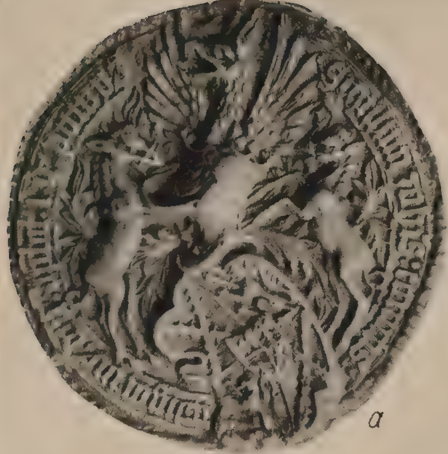
Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a.	John Tiptoft, earl of Worcester. *c.* 1450.	A.C.
b.	John Neville, lord Montagu. *c.* 1462.	A.C.
c.	Richard Neville, earl of Warwick. *c.* 1450.	A.C.
d.	Humphrey Bohun, earl of Hereford. *c.* 1300.	B.L.
e.	John Holand II, earl of Huntingdon and Admiral. *c.* 1435.	B.M. 1047
f.	Henry Hastings, earl of Huntingdon. 1631.	B.M. 6097
g.	William, lord Fitzhugh. *c.* 1430.	A.C.
h.	Edmund of Langley, duke of York. *c.* 1385.	A.C.
i.	Sir John Beaumont. 1383.	B.M. 7292
j.	Thomas, lord Berkeley. 1368.	B.M. 7398
k.	Richard, duke of York. 1434.	A.C.
l.	Sir Ralph Botreaux. 1427.	B.M. 7642
m.	Sir John Falstaff. *c.* 1456.	A.C.
n.	Thomas Kerdeston. *c.* 1431.	B.M. 11,058
o.	Sir William Marshal. 1301.	B.M. 11,607
p.	Aymer de Valence, earl of Pembroke. 1300.	P.R.O., A.S. 68
q.	Thomas Maners, earl of Rutland. *c.* 1530.	Cast?
r.	John Pychale. N.D.	A.C.

PLATE XIII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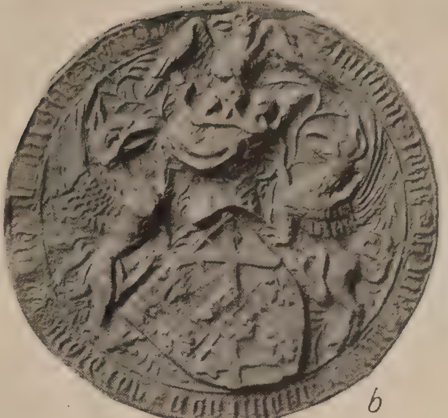
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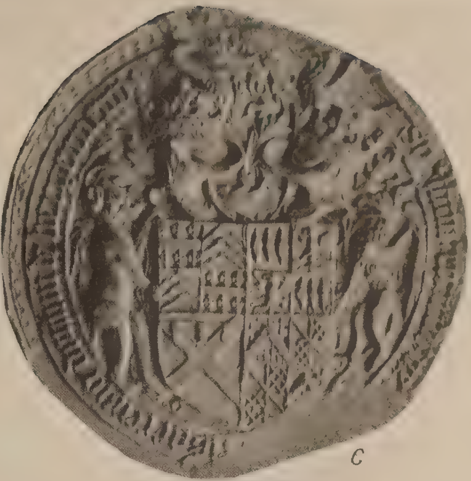
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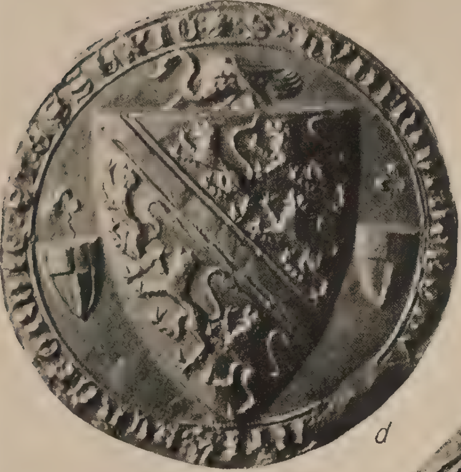
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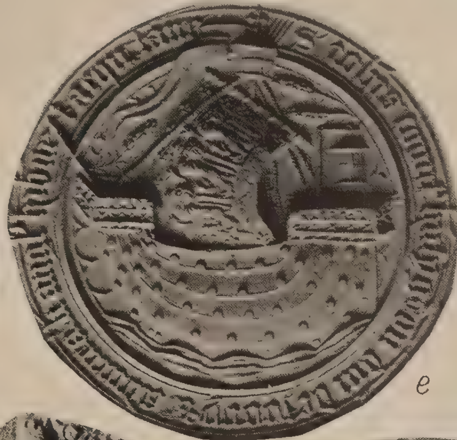
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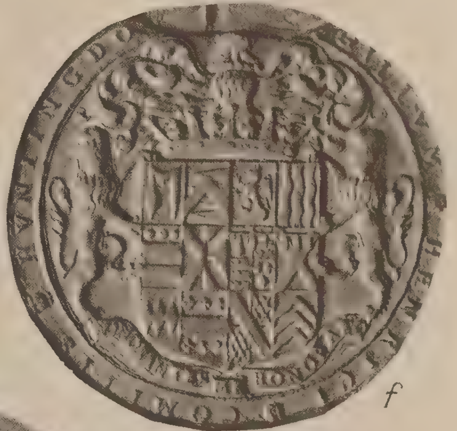
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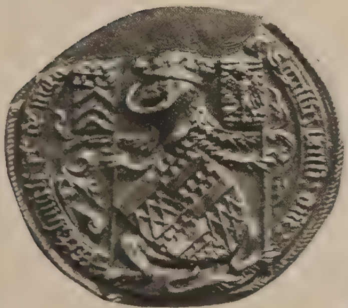
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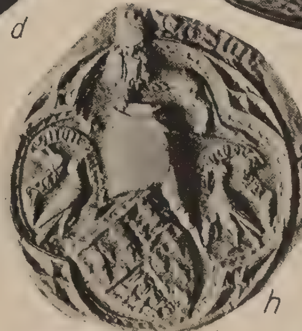
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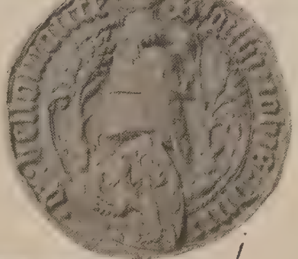
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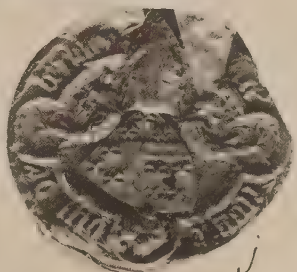
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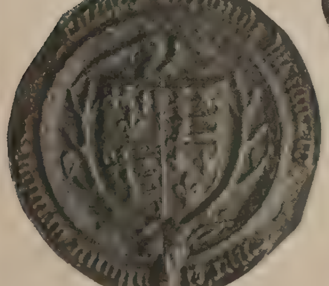
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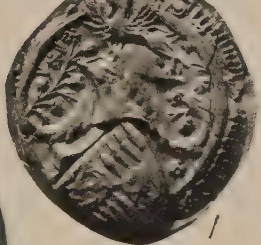
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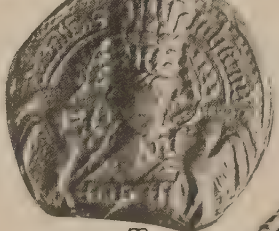
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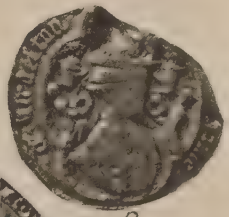
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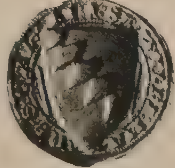
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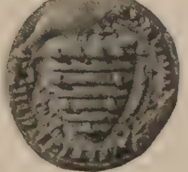
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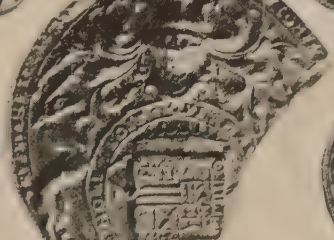
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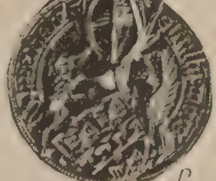
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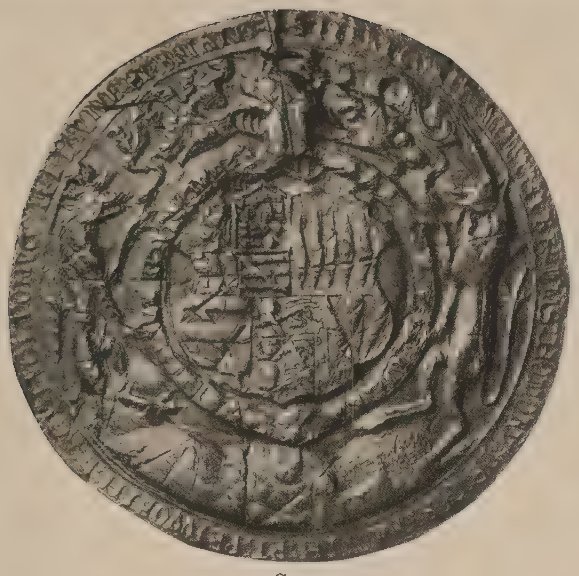
Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a. Henry Algernon Percy, earl of Northumberland. 1527–37 (1531).	P.R.O., B.S.421
b. Edward Somerset, earl of Hertford, duke of Somerset. 1547.	B.M. 13,424
c. George Douglas, earl of Angus. 1446–62. Detached seal.	C.H.H.B.
d. Henry Percy (Hotspur). *c.* 1400.	S.N.D. 633
e. Thomas Howard, duke of Norfolk. 1518.	B.M. 10,878
f. Thomas Morton, bishop of Durham. 1632–59.	Greenwell Deed, 393
g. Elizabeth (court of Queen's Bench). 1566.	Black Gate, Brummel Charts., 25
h. Peregrine Bertie, lord Willoughby. 1585.	B.M. 7437

PLATE XIV



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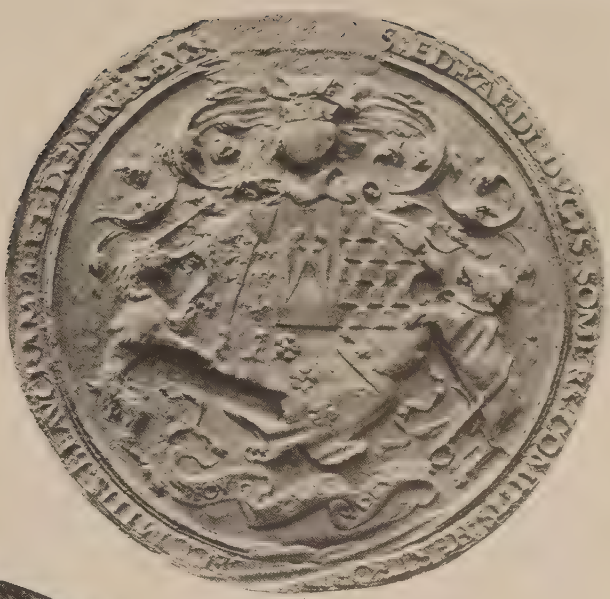

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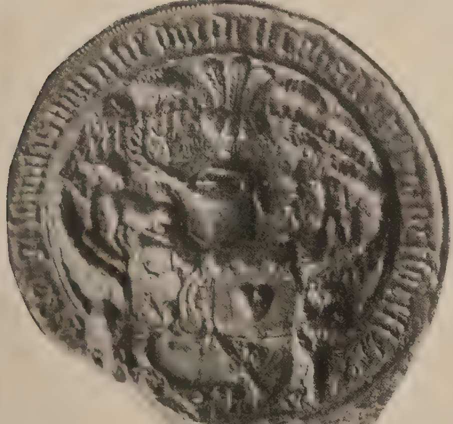

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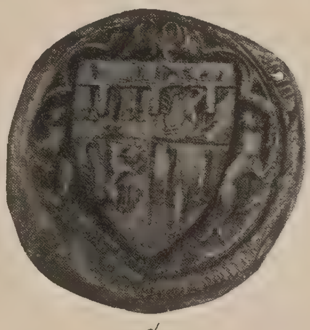

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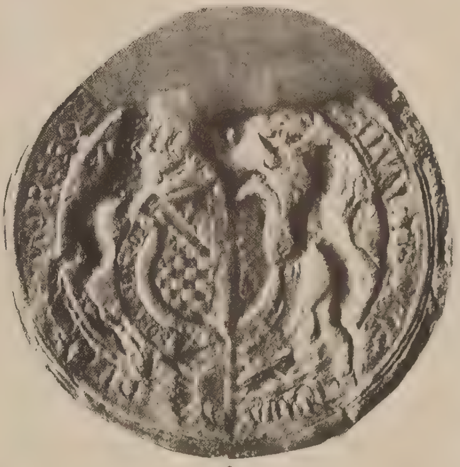

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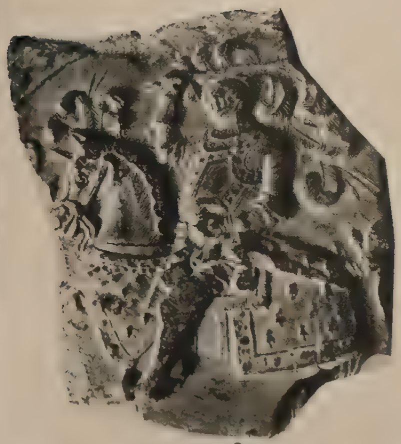

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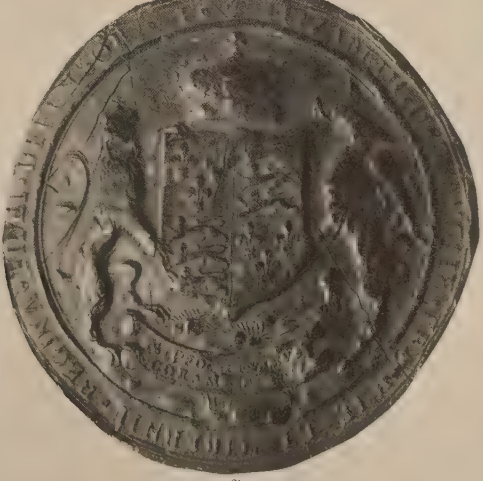

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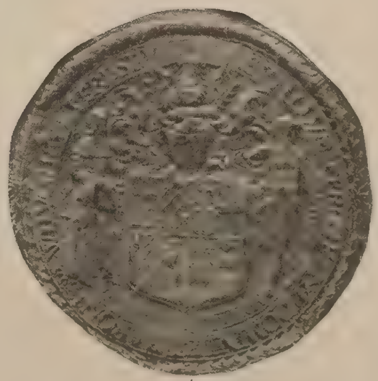

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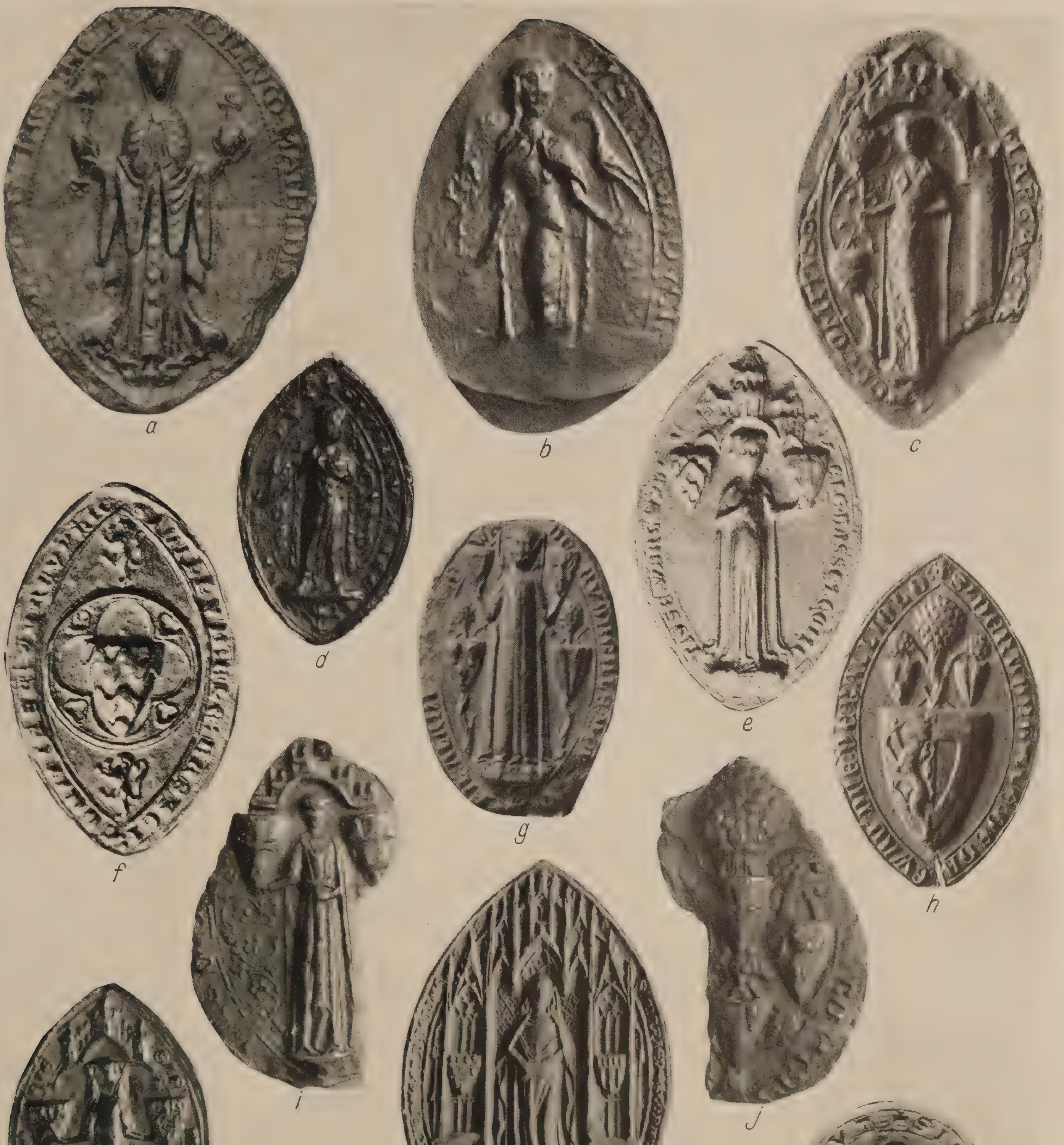
Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a.	Maud, daughter of Malcolm III and wife of Henry I. *c*. 1100.	D.S. 3018
b.	Constance, daughter of Conan IV, duke of Brittany and earl of Richmond. *c*. 1188.	B.M. 6594
c.	Margaret, daughter of Robert, earl of Leicester, and widow of Sayer de Quincy, earl of Winchester. *c*. 1220.	Demay's *Sceaux de Normandie* No. 56
d.	Isabel, daughter of David, earl of Huntingdon, and wife of Robert Brus. *c*. 1200	B.M. 6597
e.	Elie, daughter of William Longespee, earl of Salisbury, widow of Thomas, earl of Warwick, and wife of Philip Basset. *c*. 1250.	B.M. 6579
f.	Counterseal of *e*.	
g.	Dervorguile, daughter of Alan of Galloway and Margaret, daughter of David, earl of Huntingdon, widow of John Baliol. 1284.	Balliol Coll. deeds 565
h.	Counterseal of *g*.	
i.	Agnes, daughter of William Ferrers, earl of Derby, and his wife Sibyl, daughter of William Marshal, earl of Pembroke, granddaughter of Ranulph, earl of Chester, and wife of William of Vescy. 1255.	D.S. 2537
j.	Counterseal of *i*.	
k.	Marie of St. Paul, daughter of Guy de Chastillon and third wife of Aymer de Valence, earl of Pembroke. 1345.	B.M. 6707
l.	Emmeline, daughter and heiress of Sir W. Ridelford, widow of Hugh Lacey and wife of Stephen Longespee. 1250.	B.M. 6680
m.	Agace Trusbut, daughter of William Trusbut and widow of William D'Aubigny. *c*. 1195.	B.M. 13,991

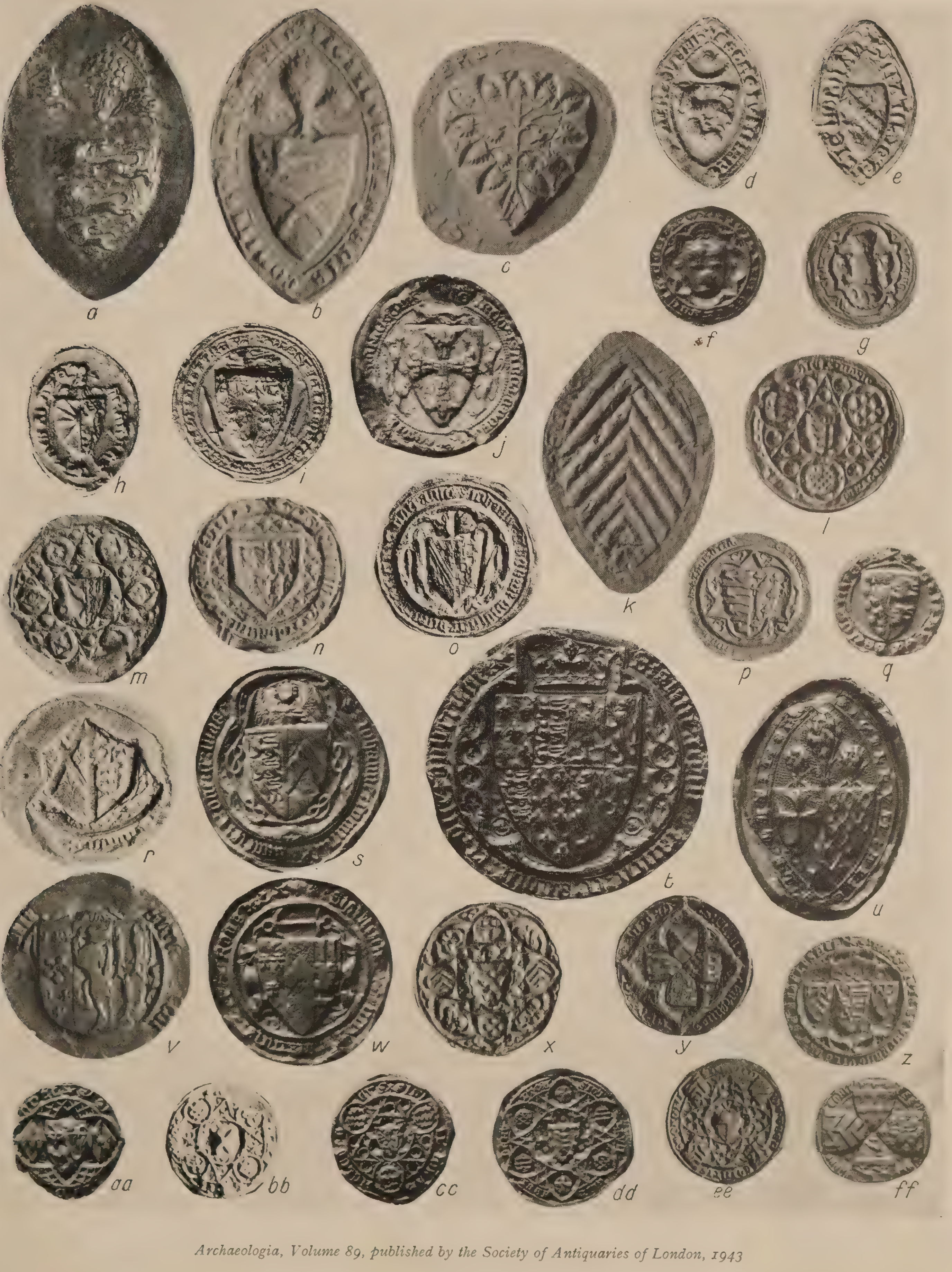
PLATE XV



Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

a.	Counterseal of Eleanor of Provence. 1262.	B.M. 794
b.	Margery, countess of Carrick. 1285.	B.M. 15,861
c.	Beatrice, widow of Robert Malherbe. 1232.	B.M. 11,538
d.	Margaret, widow of Baldwin Redvers. *c.* 1220.	B.M. 12,949
e.	Maud, daughter of Norman. *c.* 1210.	B.M. 7915
f.	Elizabeth Comyn. *c.* 1322.	B.M. 8903
g.	Johanna Wyn. 1365.	B.M. 14,629
h.	Jean de la Haye. *c.* 1300.	B.M. 10,599
i.	Counterseal of Emmeline Longespee. 1250.	B.M. 6680
j.	Counterseal of Isabel, widow of William de Forz, earl of Aumale. 1276.	B.M. 9893
k.	Rohese of Clare, wife of Gilbert of Gaunt, earl of Lincoln. *c.* 1150.	B.M. 13,048
l.	Counterseal of Marie, countess of Pembroke. 1345.	B.M. 6707
m.	Juliane, daughter of Sir Thomas Leybourne and wife of Sir John Hastings. 1330.	B.M. 8684
n.	Joan, daughter of Sir Philip Somerville and wife of Rees ap Griffith. 1371.	S.N.D. 337
o.	Joan, daughter of Richard Fitzalan and widow of Humphrey Bohun, earl of Hereford, &c. 1389.	B.M. 7540
p.	Beatrice, daughter of Count of Barre and second wife of Aymer de Valence. 1312.	B.M. 14,078
q.	Elizabeth, wife of Esmond Cornwall. 1355.	B.M. 8964
r.	Joan, daughter of John of Gaunt and second wife of Ralph, earl of Westmorland. *c.* 1435.	B.M. 12,111
s.	Joan, daughter of Hugh Stafford and wife of Thomas Holand, earl of Kent. 1437.	B.M. 10,766
t.	Anne of Bohemia. 1390.	B.M. 804
u.	Alice, wife of William le Latimer. 1311.	B.M. 11,242
v.	Maud Lucy, widow of (1) Richard Fitz Marmaduke, (2) Gilbert of Umfreville, (3) wife of Henry Percy. 1381.	Jervaulx Abbey Chart.
w.	Beatrice, daughter of Ralph Stafford, widow of (1) Maurice, earl of Desmond, (2) Thomas lord Ros, and wife of Sir Richard Burley. 1404.	B.M. 13,073
x.	Elizabeth, daughter of Gilbert of Clare, and his wife Joan, daughter of Edward I and Eleanor of Castile, widow of (1) John de Burgh, (2) Theobald lord Vernon, and wife of Sir Roger Damory. 1333.	B.M. 7934
y.	Eufemie, daughter of Ralph lord Neville, widow of (1) Reynold Lucy, (2) Robert lord Clifford, (3) Sir Walter Heslarton. 1369.	B.M. 11,436
z.	Margaret, daughter of Sir Thomas Clare and Juliane Fitzgerald, widow of Gilbert of Umfreville, and wife of Bartholomew, lord Badlesmere. 1328.	S.N.D. 792
aa.	Sybil, daughter of William Montagu and wife of Sir Edmund Arundel. 1350.	B.M. 6936
bb.	Alice, daughter of Ralph lord Audley, widow of (1) Ralph lord Greystock, (2) Ralph lord Neville. 1368.	B.M. 12,086
cc.	Joan Braose. 1348.	B.M. 7788
dd.	Elizabeth Multon, wife of Walter Berningham. 1341.	B.M. 7411
ee.	Maud, daughter of Bartholomew Badlesmere, and Margaret of Clare, widow of (1) Robert Fitzpayne, (2) John de Vere, earl of Oxford. 1366.	B.M. 14,130
ff.	Eleanor, daughter of —— Clare, widow of (1) Richard Fitzmarmaduke, (2) Robert Umfreville, earl of Angus, and wife of Sir Roger Mauduit. 1325.	D.S. 1728

PLATE XVI



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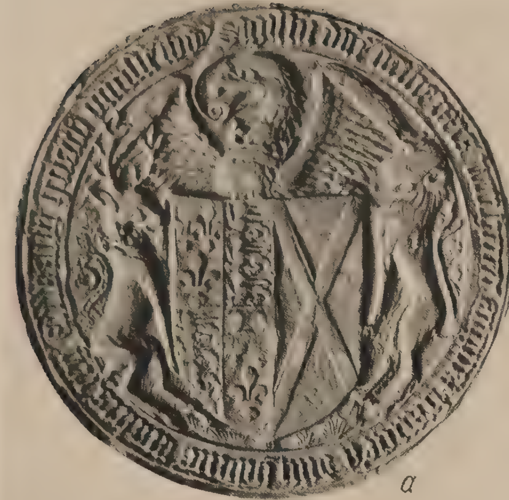
a.	Cecily, daughter of Ralph, earl of Westmorland, widow of Richard, duke of York and mother of Edward IV. 1477.	B.M. 12,092
b.	Joan, heiress of Thomas Fitzalan, earl of Arundel and widow of Sir William Beauchamp, lord Abergavenny. 1424.	B.M. 7239
c.	Elizabeth, daughter of Richard, earl of Arundel and wife of Thomas Mowbray, duke of Norfolk. *c.* 1385.	B.M. 11,990
d.	Margaret Beaufort, countess of Richmond, daughter of John, duke of Somerset and widow of Edmund Tudor, earl of Richmond. *c.* 1485.	A.C.
e.	Margaret Beaufort, daughter of Sir John Beauchamp and widow of John, earl of Somerset. 1447.	B.M. 7286
f.	Anne, daughter of Richard Talbot and wife of Hugh Courtenay, earl of Devon. 1428.	B.M. 9004
g.	Margaret, daughter of Richard, earl of Warwick and widow of John Talbot, earl of Shrewsbury. 1456.	B.M. 13,848
h.	Margaret, daughter of William, lord Botreaux and his wife Elizabeth Beaumont, wife of Robert, lord Hungerford. 1470.	B.M. 10,912
i.	Eleanor, daughter and co-heir of Humphrey, earl of Hereford, and widow of Thomas of Woodstock, duke of Gloucester.	Sandford, Gen. Hist. p. 125
j.	Privy seal of Philippa of Hainault. *c.* 1340.	B.M. 801
k.	Margaret, daughter of Sir Thomas Gamage and second wife of lord Howard of Effingham. 1573.	B.M. 10,873
l.	Joan, wife of Roger Dakeney. 1354.	B.M. 9166
m.	Margaret, daughter of George, duke of Clarence and earl of Salisbury. 1514.	B.M. 12,702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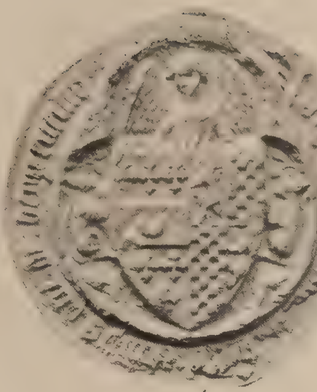
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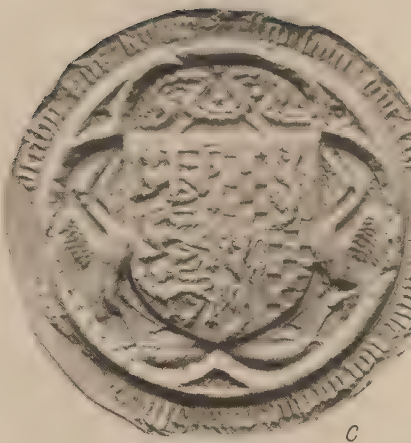
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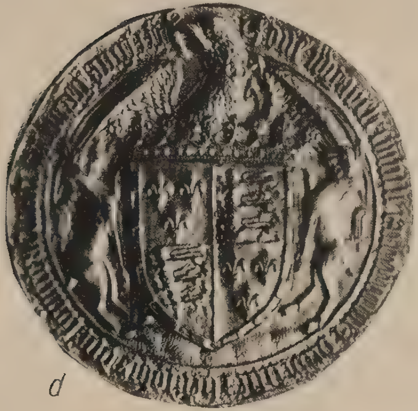
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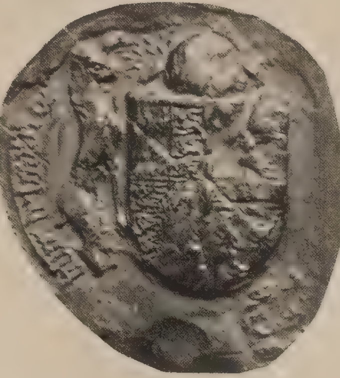
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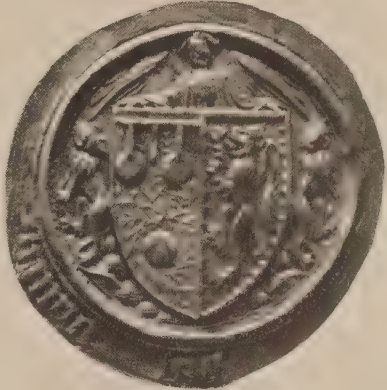
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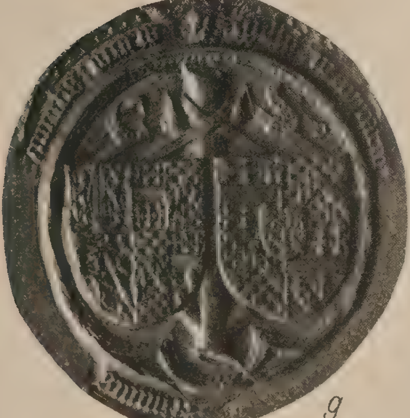
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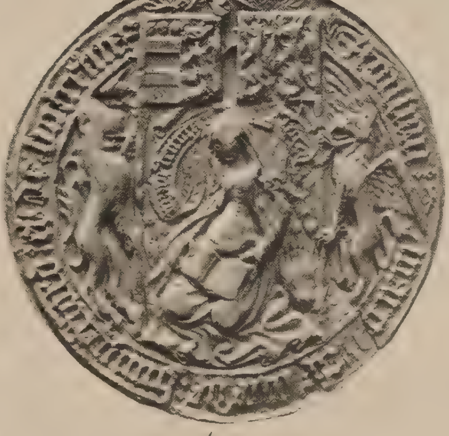
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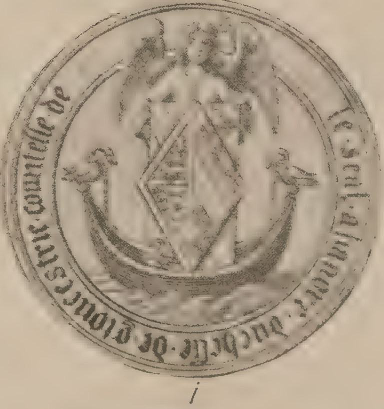
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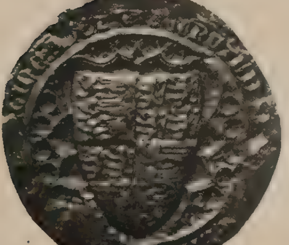
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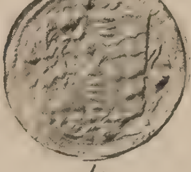
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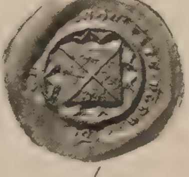
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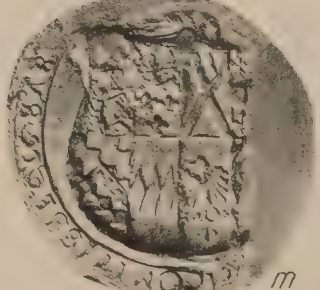
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II.—*The Saxon Monastery of Whitby*

By Sir Charles Peers, *Past President, and*
C. A. Ralegh Radford, *Esq., F.S.A.*

It is not necessary, by way of introduction to the story of Whitby Abbey, to repeat the history of the conversion of Northumbria to Christianity in the seventh century, but the immediate causes of the foundation of the monastery may be shortly set down.

King Oswald of Northumbria, having defeated and killed Cadwalla at Heavenfield in 634, invited a missionary priest from Iona to settle in his realm, and after Corman had been sent, but proved ill-fitted for the work of reintroducing Christianity, Aidan succeeded in the attempt, and set up a monastery in Lindisfarne in 635. In 640 he established a monastery at Hartlepool, with Heiu as its first abbess. The death of Oswald in battle against the heathen Penda of Mercia in 642 was a temporary setback, but the final triumph of Christianity was ensured by the defeat and death of Penda at the battle of the Winwaed in 655.

King Oswy, Oswald's successor, having tried to buy off Penda by promise of tribute, found it impossible to bring him to an agreement, and therefore decided to put the matter to the test of battle, vowing that if he were victorious he would offer to God the gifts which the heathen had rejected. He promised also to give his infant daughter Elfled to the religious life, and with her twelve gifts of land, each of ten *familiae*, for the founding of monasteries.

After the victory he made good his promise, setting aside twelve pieces of land, six in Deira and six in Bernicia, each of ten *familiae*, and sending Elfled to Hartlepool monastery, where Hilda was then abbess.

Hilda, two years later, i.e. in 657, set up a monastery on one of the sites promised by Oswy, a piece of land of ten *familiae* at Streanaeshalch, and taking Elfled with her settled there as abbess, and there died in the year 680. Elfled succeeded her, dying in her sixtieth year, after ruling the monastery for thirty-three years. As abbess jointly with her mother Eanfled she received the fugitive bishop Trumwine, driven out of Abercorn by the Picts after the battle of Nechtansmere in 685.

Trumwine lived for the rest of his life at Whitby, giving much help in the management of the house, and was buried in the church of St. Peter there with the honour due to his rank and dignity. By reason of Elfled's royal connexion the same church became the burial-place of her father Oswy, her mother Eanfled, and her maternal grandfather Edwin, together with many others of noble birth.

Though we have no precise record of the size of such a monastery as this, it is probable that the number of its inhabitants, whether professed or not, must have been considerable. As a training-ground for ecclesiastics its reputation was high, and Bede gives a list of five men here trained who afterwards rose to high place in the church. Bosa and Wilfrid (ii) became bishops of York; Aetla of Dorchester; John of Hexham; and Oftfor, after further training at Canterbury and Rome, was made bishop of the Huiccii, an office to which another *alumnus* of Whitby, Tatfrid, had been formerly chosen.

The house was double, that is, containing both professed women and men, and in addition to seculars under instruction there were a number of servants and craftsmen: and probably guests were at all times received. In the account of Hilda's death there is a reference to a place for female novices,[1] in the outer part of the monastery, and in the story of Caedmon to a house used as an infirmary.[2] Something more like a description of such a monastery can be obtained from the story of Adamnan and the burning of Coldingham.[3]

Adamnan was an Irishman, who as a young man, in repentance for a crime, had submitted himself to a priest for penance, in hope of future forgiveness. The penance imposed was that of fasting for two or three days at a time till further notice, the priest promising to return and give him more precise directions later on. It so happened that the priest, suddenly called away to Ireland, found no opportunity to return and died without revisiting Coldingham. Adamnan continued his penance, fasting on five days in each week, and even the news of the priest's death did not induce him to relax the severity of his life. One day, having gone beyond the bounds of the monastery with a companion, the sight of the buildings *sublimiter erecta* (lofty in themselves or set on a lofty site) caused him to shed tears, and when asked the reason he replied that all these buildings, public or private, would shortly be burnt to ashes. Being taken before the abbess, whose name was Aebba, he told her that as he had been watching and singing psalms at night a man whose face he did not know came and stood by him, telling him not to be afraid, for that he was doing well to watch and pray, but that there were in the monastery very few others who did the like.

'I have been', said the apparition, 'through all this monastery in order, and have looked at every cell and bed, but have found none except yourself taking thought for the health of their souls: all of them, men and women, are either asleep or, if awake, doing sinful things. For the little houses (*domunculae*) made for prayer or reading are now turned into places for wrangling, drinking, and chattering, and the nuns, in defiance of their vows, are wearing fine linen.

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[1] *H.E.*, iv, 21.
[2] *H.E.*, iv, 22.
[3] *H.E.*, iv, 23.

These things deserve punishment, and it is coming in the form of fire from heaven.' Shortly afterwards the monastery was burnt.

The groups of little houses or cells, being the dwelling-places of the professed and others, were laid out as it seems according to no definite plan, but from the accounts of other early writers were usually set round a central *platea* or space, which contained the church or churches of the community. Together with the cells were larger buildings for general use, and the labourers and craftsmen had their own dwellings and offices. The whole group was enclosed by some boundary, whether palisades, earthen banks, or both. That such enclosures did not necessarily imply the severance of the inmates of the monastery from the outer world is illustrated by the story of Adamnan, and they must not be compared with the high banks round Cuthbert's hermitage on Farne Island, which cut off his view of everything except the sky. The high wall, apparently of masonry, which surrounded the twelve cells forming the monastery of Abingdon in the seventh century, can have had no parallels at Whitby.

The first indication that any buildings underlay the sites of the present church and churchyard was noted when the clearing of the western range, south of the church, was begun. The outer parlour is of late twelfth-century date, and beneath it, at a different angle to any other building, was some rough stone foundation laid in clay, and bits of fire-reddened clay, from a wattle-and-daub construction. These walls, once recognized, occurred in front of the west end of the church, and were followed up on the north side till the greater part of the available area had been explored, with results which are now to be described.

The ground to the north of the medieval church had been used as a cemetery from the twelfth century onwards, and was full of graves, shown in dotted outline and marked 'burial' on the plan. It seems that the existence of the Saxon buildings had been forgotten, for the graves are dug at random through the old foundations. No doubt the whole site had been cleared and levelled when it was reoccupied at the end of the eleventh century. The extent of ground examined is shown on the plan, and lies to the north of the monastic church, extending beyond it to the east and west. The north-east part of the site, lying outside the remains of a paved road, contained some medieval lime-kilns and furnaces, and seemed to be definitely of late date, and it seems possible that the road preserves the outline of the original monastic boundary in this direction.

From this point westwards the ground was covered with much disturbed remains of small buildings, and what appeared to be stone paving, both within the buildings and outside them. Shallow stone-lined surface drains ran in all directions among the buildings, and (especially within the buildings) pieces of wattle and daub, hardened and reddened by fire, appeared. There were also a number of shallow wells, dug in the surface clay, and stone-lined and covered.

Documentary evidence for the buildings of this early monastery is meagre, as might be anticipated. Its existence, from the first settlement by Hilda till the destruction by the Danes, covers just over two hundred years (657–867). After this time there is no suggestion of reoccupation of the site till Reinfrid's coming at the end of the eleventh century (*c.* 1075), when according to Symeon of Durham[1] there were on the site almost forty *monasteria*, whereof only the walls and the altars, empty and roofless, had survived the destruction by the pirate host.[2]

The principal church at Whitby seems to have been that of St. Peter. In it Kings Edwin and Oswy, with others of the royal family, were buried, as well as Bishop Trumwine who was driven from his see of Abercorn by the Picts after the Anglian disaster at Nechtansmere in 685, and took refuge at Whitby.

The story of King Edwin's burial, as related by a monk of Whitby,[3] says that his bones, recovered from their burial-place on the battle-field of 'Hedfled', were placed to the south of the altar of St. Peter, and to the east of St. Gregory's altar in the same church. This account, being from internal evidence written before the coming of the Danes, gives all that is known about the arrangement of St. Peter's church. Of other churches, if such there were, nothing has come down to us. All that can be said is that if anything was left of St. Peter's church when Reinfrid came it would have been natural to use its site for that of the new church, and since the foundations of the eleventh-century church have been recovered, that site is known.

If it may be assumed that the church or churches occupied the middle of the monastic precinct, it seems that the buildings which form the subject of this communication must occupy the northern part of the precinct. And since the traces of these structures extend at least 300 ft. from east to west, and nearly 200 from north to south, and show no signs of a boundary except at the north-east, the whole extent of the monastery must have been very considerable. Plans of seven buildings have been recovered, and there is evidence of the former existence of a good many more. Only in a few places does any walling remain above foundation level, and it is impossible to suggest any building sequence. All walls are of stone, the foundation courses seeming to be set in clay without lime, and not enough is left of the fairwork to show whether, as is of course probable, lime mortar was used there. It can only be said that 2 ft. seems to be the ordinary thickness of the walls, that any internal divisions were of timber, filled in with wattle and daub, and from the absence of any remains of tiles or slates, the roofs must have been thatched.

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[1] *H. E. Dunelm*, I, iii.

[2] Compare the reference to the *ecclesia primitiva* of Christchurch, Hants (MS. Cott. Tib. D. vi), which stood in a churchyard with nine other churches. These were, however, of later date and were still complete when the monastery was granted to Flambard by William the Conqueror. It is possible that such groups of churches may have suggested the description of the little stone buildings at Whitby (which must have been the ruined *cellulae* of the Saxon monastery) as chapels.

[3] P. Ewald, 'The Earliest Biography of Gregory I', in *Historische Aufsätze*, 1886, pp. 17–55.

Two rectangular buildings standing in a line east and west to the north of the north transept of the medieval church, and set with their long axis east and west, show certain resemblances which are worth noting. Their internal area is approximately 18 ft. east to west by 11 ft. north to south; each had a doorway in its south wall, and a stone-paved area about 4 ft. square in the north-west angle, with a drain from it running north to an external drain which runs east and west along the north wall of each building. A stone hearth shows that there was a fire in the eastern half of the house, and suggests a division into a living room 11 ft. square, with a bedroom at the south-west and a lavatory at the north-west: these would be divided off by wattle and daub partitions. The floor may have been of beaten earth, though stone is plentiful enough on the site. Nothing can be said about windows, but the doorways seem to have had upright stone jambs in 'long and short' technique, resting on stone sills. It seems reasonable to assume that these are two *domunculae* or cells, each occupied by a single inhabitant, and to the west of the north transept are two similar buildings, but less well preserved, which may be two more examples of the class. Both are set with their long axis east and west, but one of them is 23 ft. long by 12 ft. wide, which seems excessive for a single cell.

To the north of the last named is a rectangular foundation standing north and south, measuring 47 ft. by 19 ft. within its walls. A large drain runs along its west side, but there is nothing to suggest to what use the building may have been put. Perhaps it may be said that a building for common use, such as a refectory, would be likely to occupy a more central position than this, and we may have here a guesthouse or merely a storehouse. Twenty feet to the south-west of it is a building about 19 ft. square over all, showing no trace of its original arrangements, and 50–60 ft. west of this is an irregular L-shaped structure (pl. XXXI) divided by a stone wall into two chambers, the northern of which stands east and west with an average length of 21 ft. by a width of 11 ft., and the southern north and south measuring 20 ft. by 11 ft. At the east end of the northern chamber is a large stone hearth divided into two sections, 3 ft. wide by 8 ft. long (pl. XIX, *b*), suggesting that this was an industrial building, perhaps a smithy.

Little can be said of the traces of other buildings. In the space east of the long foundation, which it was suggested might have served as a guesthouse, there is evidence of a group of buildings and at least one open hearth, while close by to the north the bases of two stone crosses were uncovered (pl. XVIII, *c*).

Between the square building south-west of the 'guesthouse', and the two 'cellulae' north of the north transept, is a wall running east and west for some 30 ft., in which is the sill stone of a doorway, belonging to a presumably rectangular house of which nothing but the footings of the north wall survive. A drain runs diagonally across it from south-east to north-west.

Analogies to such buildings as the above are very hard to obtain, but since it may be maintained that the small buildings, which I have ventured to identify as the 'cellulae' of individual members of the monastery, have certain definite characteristics, which should occur on other early sites, the following references, which I owe to the kindness of our President, Mr. Clapham, are worthy of consideration.

(i) An early settlement-site on Gateholme,[1] Pembrokeshire, has a row of rectangular huts in line, close to each other—the largest measuring 20 ft. by 12 ft. It has a central hearth, with a posthole and a pit on either side of the hearth on the centre-line of the building; there are doorways, lined with stone slabs, in the middle of each long side, and in one corner a patch of pebble paving. A ring-headed pin of Irish type (sixth cent.) was found in this hut. There is no direct evidence that this site is monastic; on the other hand there is no need to suppose that a specialized type of dwelling was at this date already evolved for monastic use.

(ii) Ynys Seiriol[2] (Puffin Island), Anglesey. A number of cells set against the north-west enclosure of the site, and definitely older than the twelfth-century reconstructions. They are rectangular in plan, 12 ft. wide by 10 ft. to 25 ft. long. The huts have not been excavated, and no details of internal arrangements are forthcoming.

(iii) Eileach an Naoimh[3] (The Garvellachs, Argyll). The remains of an early settlement of Celtic type, traditionally connected with St. Columba's mission. Only referred to here because of the existence of a small group of buildings of doubtful date, known as 'the monastery', the oldest part being of L-shaped plan, divided into two chambers, one 18½ ft. by 11½ ft., the other 20¾ ft. by 12¼ ft. Beyond the correspondence in size, which may be of small significance, nothing suggests a connexion in type with the Anglian monastery.

(iv) At Tintagel, where the early monastic site has been explored by

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[1] T. C. Lethbridge and H. E. David, in *Arch. Camb.*, 1930, p. 366.

[2] *R. C. H. M. Anglesey*, i, 142.

[3] Thomas Bryce and G. A. Frank Knight, *Trans. Glasgow Arch. Soc.*, N. S., 1930, vol. viii, pt. ii, pp. 62–102.

Mr. C. A. R. Radford, nothing comparable with the Whitby buildings has come to light.

(v) The small rectangular buildings on the Brough of Deerness in Orkney are an example of a settlement, presumably monastic, but as far as I know they have not been investigated for evidences of their internal arrangements.

Architectural details which can be attributed to the Anglian monastic buildings are very few. There is a baluster shaft of early type, akin to those preserved at Monkwearmouth, and part of a second baluster of clumsy profile, which should belong to the last years of the monastery. There is also a jamb stone worked with a double roll, which is presumably a stripwork detail framing a doorway or window, and may be a bonder—the 'short' stone—from a long and short jamb. The shallow wells, evidently for surface water, of which some ten or eleven were found, were dug in the clay and steined with rubble masonry gathered over at the top to take a flat coverstone—they were on an average 3 ft. in diameter and 3 to 4 ft. deep (pl. XVIII, *a*). In one was found a bronze skillet of Roman date. A medieval well, of entirely different character, was uncovered to the west of the north transept.

The number of medieval graves scattered over the excavated site was large; they date from the twelfth century onwards and are normally covered with tapering stone slabs. In two instances the head and foot stones have been preserved and witness to a twelfth-century date. These graves may well be those of lay-folk, the members of the medieval monastery being normally buried round the east end of the church. The site of the Anglian cemetery is unknown, but among the remains of the early buildings is one stone-lined pit with tapering sides (pl. XVIII, *b*), set east and west, and quite different from the medieval graves, which looks as if intended for a burial. Its isolated position—nothing else like it having been found on the site—throws some doubt on its real character.

Sculptured Stones, Crosses, etc.

A fragment of a single recumbent slab, re-used and carved with animal ornament, was found. The only other sculpture was part of the shaft of a late Anglian cross and interlaced decoration on two of the funerary monuments. This series was numerous, and in addition to those described and illustrated many smaller fragments remain on the site. The material employed is a hard crystalline limestone. All were found loose within the area of the lay folk's cemetery of the medieval abbey mixed with other remains of the Saxon period.

Stones with animal ornament:

1. Fragment of a slab measuring 1 ft. by 8 in. by 4 in. thick (pl. XX). On the surface was engraved in double outline a cross of early form with expanded arms,

set in a frame. The slab, which may be compared with the later example from Lindisfarne,[1] measured 1 ft. 7 in. wide. The position of the later design shows that the cross must have been of the Latin form, and a normal proportion, with the shaft double the length of the other arms, would give an original height of about 2 ft. 4 in. The form of the cross and the type of small recumbent slab, an Irish rather than a Saxon custom, both suggest an early date, possibly before the Synod of Whitby (664).

The slab when re-used was divided into two panels each measuring 1 ft. by 10 in. high. A border, 3½ in. wide, of cable pattern with two pearled rows remains on the right margin and probably continued along all four sides. A single pearled row separates the two panels. Of the lower panel only a part of the margin remains, but a considerable area of the upper is preserved. The background is cut away to a depth of 2 in. leaving the design in high relief. The subject was a tree between two animals, a simpler version of the seventh-century Jedburgh slab.[2] On the left of the fragment the stem of the tree can be seen and a branch bearing a heavy seed-pod falls down over the body of the animal on the right. This is shown ramping against the margin and the contracted position of the forelegs suggests that the lost head was turned backwards towards the tree trunk. The design and the vigorous natural modelling of the animal point to a date about 700. The slab can never have formed part of a cross, and the size suggests that it was the end of a shrine designed to contain a body. The chest to which St. Cuthbert's body was translated in 698 stood on the floor of the church.[3] The shrine in St. Peter's Church at Lichfield, to which St. Chad's body was translated, must also have stood above the floor as there was a hole in the side through which the faithful might stretch their hands to collect the dust, which was credited with miraculous qualities.[4] Both these were of wood, but the material is a secondary question even discounting the probability that the wooden shrine of St. Cuthbert, which is still preserved at Durham, was from the first enclosed in a stone casing. The coffin of St. Cuthbert which diminishes in width from 1 ft. 5 in. to 1 ft. 4 in. and is 1 ft. 6 in. high, would fit easily into a stone shrine of the size suggested by the slab under consideration. Similar shrines are suggested by the sculptured slabs at Hovingham[5] (5 ft. 3 in. by 1 ft. 10 in.) and Breedon,[6] while the sculptured coped stone at Wirksworth[1] (5 ft., originally *c.* 6 ft. 8 in. by 2 ft. 10 in.) was probably the top of another. The structure of these shrines is illustrated by the later fragments from St. Andrews[2] where the corner posts as well as the slabs are preserved. Translations to a shrine of this type were not uncommon in Saxon churches. They took place some years after the death of the Saint, the body being interred in the cemetery or beneath the floor of the church until the flesh had fallen from the bones. The histories mention no translation at Whitby, but it is tempting to suggest that it was the foundress St. Hilda who was thus honoured even as St. Aetheldreda in 695 was translated to the sarcophagus of white Roman marble in her church at Ely.[3] A translation within the generation following St. Hilda's death (680) would suit the dates suggested above, and the original recumbent slab may even have been the stone marking her grave in the cemetery re-used for reasons of piety.

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[1] *Archaeologia*, lxxiv, 265 and 270; pl. LV, 1.

[2] *Antiquity*, x, 64; pl. II B.

[3] *Bedae Vita Sancti Cuthberti*, cap. 42 (Colgrave, p. 294) '. . . et involutum . . . corpus levique in theca reconditum supra pauimentum sanctuarii composuerunt'. Cf. *ibid.*, 'in levi arca recondita in eodem quidem loco sed supra pauimentum . . . locarent'.

[4] *Bedae Historia Ecclesiastica*, iv, 3 (Plummer, i, 212). 'Est autem locus idem sepulchri tumba lignea in modum domunculi facta coopertus, habente foramen in pariete, per quod solent hi, qui causa deuotionis illo adueniunt, manum suam inmittere, ac partem pulueris inde adsumere.'

[5] Kendrick, *Anglo-Saxon Art*, pl. LXXXVII; *Yorkshire Arch. Journ.*, xix, 337.

[6] *Archaeologia*, lxxvii, 223; pl. XXXIX.

2. Lower part of the shaft of a standing cross (pl. XXII, *b*). The shaft is 11 in. wide. The back and sides are plain. The lowest 5 in. is left bare for setting in the socket. Above is a much defaced and imperfect sculptured panel set in a plain frame. The hind legs and part of the body of an animal can be clearly seen in the lower right-hand corner. An animal's head and forelegs can be traced in the other bottom corner. The design suggests two animals, that on the left upside down, a motive shown on one of the crosses found at Lindisfarne.[4] It is, however, possible that the Whitby sculpture should be interpreted as a single beast bent over with all four paws and its head on the ground. The contorted design and poor execution both point to a late period, probably in the ninth century.

Funerary Crosses:

Many fragments of plain standing crosses were found. The type is shown by no. 3 which originally stood about 5 ft. high. The sole ornament is a double outline on the face of the shaft and head. A smaller variant without this outline also occurs (e.g. nos. 10 and 11). The normal form of the head with square-ended expanded arms separated by a circular hollow is based on that of later Anglian monumental crosses such as Otley. But these plain crosses are clearly funerary as is shown by the names and even more the formulae employed on nos. 11 and 13. The cross was introduced in Christian tombs at a comparatively late date, but already in the sixth century it was established in Celtic Britain as an initial symbol. In Ireland we can watch its gradual evolution on the grave slabs where it soon becomes dominant, and it had already assumed this position in the Northumbrian 'pillow stones' of the early period. But the introduction of a free standing cross for this purpose is not clearly dated. The crosses at the head and foot of the grave of Bishop Acca of Hexham prove that the custom was not unknown in 740.[1] St. Cuthbert desired to be buried at the foot of the cross which he had erected on the south side of his oratory on Farne,[2] but this was not set up with a view to his burial. The ornamented crosses of the Whitby series point to the later stages of the monastery, and this is confirmed by datable funerary crosses from other sites, like the fragments from Dewsbury and Carlisle,[3] both of which must be placed in the ninth century. The Ovinus stone at Ely though of the seventh century was not designed as a cross base, and the reasons for ascribing no. 11 below to an early date are not conclusive. It would therefore appear that the custom of erecting free standing crosses above the graves of the faithful grew up during the eighth century and only became relatively common in the latest period to which the majority of the present series must be attributed.

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[1] Kendrick, *Anglo-Saxon Art*, pl. LXVII; *V.C.H. Derbyshire*, i, 284.

[2] Fleming, *St. Andrews Cathedral Museum*, 7 and 8; *Antiquity*, xvi, 9.

[3] *Bedae Historia Ecclesiastica*, iv, 19 (Plummer, i, 244–6).

[4] *Archaeologia*, lxxiv, pl. LII, 1.

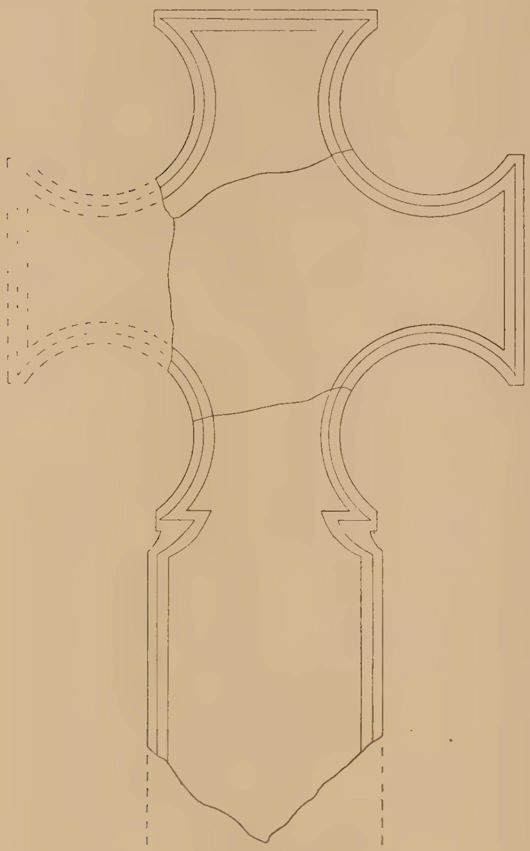

Fig. 1. Cross no. 7 ($\frac{1}{8}$)

3. Standing cross originally *c.* 5 ft. high and 2 ft. across (pl. XXIX, *a*). A double incision outlines the head and shaft with a chevron at the base. Broken in three pieces, upper arm missing. Back and sides plain. The outline extends almost to the base which stood in a stone socket.

4. Base of rectangular shaft *c.* 1 ft. square. The chevron and outline on the front and back are triple; on the sides double. The lowest 10 in. is plain for setting in the socket.

5. Lower part of a shaft with a double incised outline on the face. The lowest 5 in. are left rough. Width 8 in.

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[1] *Symeon of Durham, s.a.* 740 (Rolls Series 75, ii, 33): 'Duaeque cruces lapideae mirabili celatura decoratae positae sunt, una ad caput alia ad pedes eius. In quarum una, quae scilicet ad caput est, literis insculptum est, quod in eodem loco sepultus sit.'

[2] *Bedae Vita Sancti Cuthberti*, cap. xxxvii (Colgrave, p. 272), 'Sepelite me in hac mansione iuxta oratorium meum ad meridiem contra orientalem plagam sanctae crucis quam ibidem erexi'.

[3] Collingwood, *Northumbrian Crosses*, 58, figs. 72 and 73.

6. Two fragments comprising upper part of shaft and part of two arms. Double incised outline on front. The head is separated from the shaft by nicks on the sides of the stone and the incised outline emphasizes the division. Originally *c.* 2 ft. wide and over 3 ft. 6 in. high.

7. Three fragments of a head with double incised outline on both faces (fig. 1). Originally *c.* 2 ft. wide.

8. Upper part of shaft and base of head and one arm, in two fragments (fig. 2). Double incised outline on both faces. Originally *c.* 3 ft. wide and over 5 ft. high.

9. One arm with double incised outline. The double curvature on the side of the arms, though it is normally early, is found on late crosses.

10. Cross of smaller type (pl. XXI). The arms have short terminals and there is no outline or other ornament. The cross probably stood on a low shaft. The reverse is plain, but carefully dressed. Width of head 1 ft. 5½ in. Stone 5 in. thick. The stone has been badly burnt. The parallel lines giving the appearance of a frame have been thought to contain a Runic inscription.[1] I can find no trace of this. The lines are not horizontal and I consider that they represent damage at a later date.

11. Left arm of a similar cross with part of an inscription in Roman capitals: HIC RE[QUIESCIT IN HOC SE]PU[LCRO . . . (pl. XXII, *c* and fig. 6). The head was originally 2 ft. 3 in. wide. Stone 4½ in. thick.

12. Centre and part of one arm of a similar cross (pl. XXII, *a* and fig. 7). Head originally 1 ft. 7 in. wide. Stone 4 in. thick. In the centre is an inscription in Insular majuscule with initial and final crosses: + ABBAE +.

13. Central part of a similar cross (pl. XXIII). Original dimensions uncertain, but width *c.* 2 ft. Stone 6 in. thick. The whole centre of the head is covered with an illegible Latin inscription in Insular majuscule.

14. Arm of similar cross (pl. XXV, *b*). Dimensions uncertain. Illegible Runic inscription.

15. Arm of similar cross. The arm is very wide in proportion to its length. Width of head *c.* 2 ft. Stone 3¼ in. thick. In the centre of the arm are the letters R H T. The sharply chiselled lines and the forms of the letters are in sharp contrast to the normal pecked inscriptions. They are clearly later and probably medieval.[2]

16. Centre and one arm of a similar cross. Head originally 1 ft. 10½ in. wide. Stone 3 in. thick. Near the edge of the arm are the letters H S cut like those on no. 14 and of the same period.

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[1] Baldwin Brown, *Arts in Early England*, VI, ii, 101; fig. 12.

[2] Medieval re-use of these fragments of cross is further shown by moulds for buttons and other small objects cut into the face of one slab.

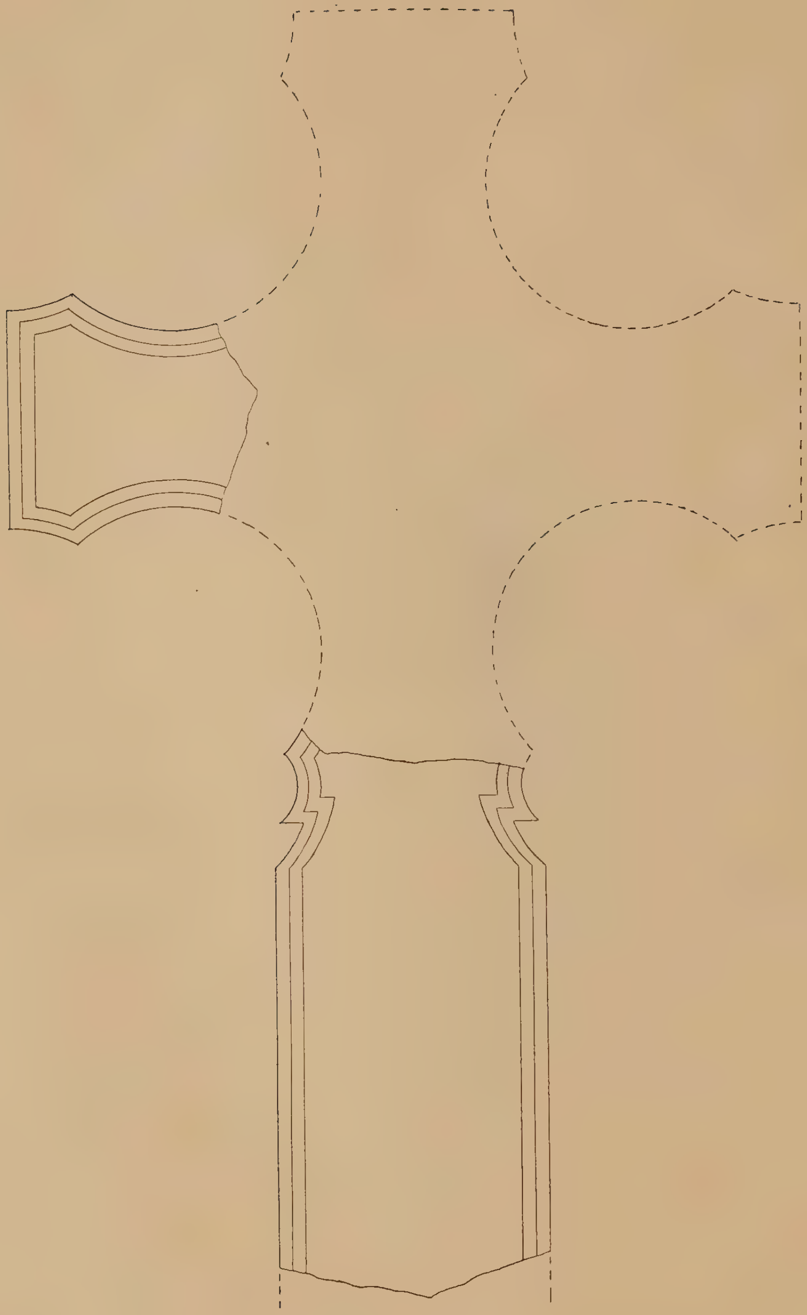

Fig. 2. Cross no. 8 ($\frac{1}{8}$)

17. Much damaged arm of a similar cross. Trace of a single incision following the outline. Two parallel grooves in the centre may be part of a cross incised within the lines of the stone face.

18. Terminal of the upper arm of a cross, with name EOMVND in Insular majuscule (pl. XXII, *d* and fig. 8).

19. Arm of a cross with raised moulding and cable ornament on angle.

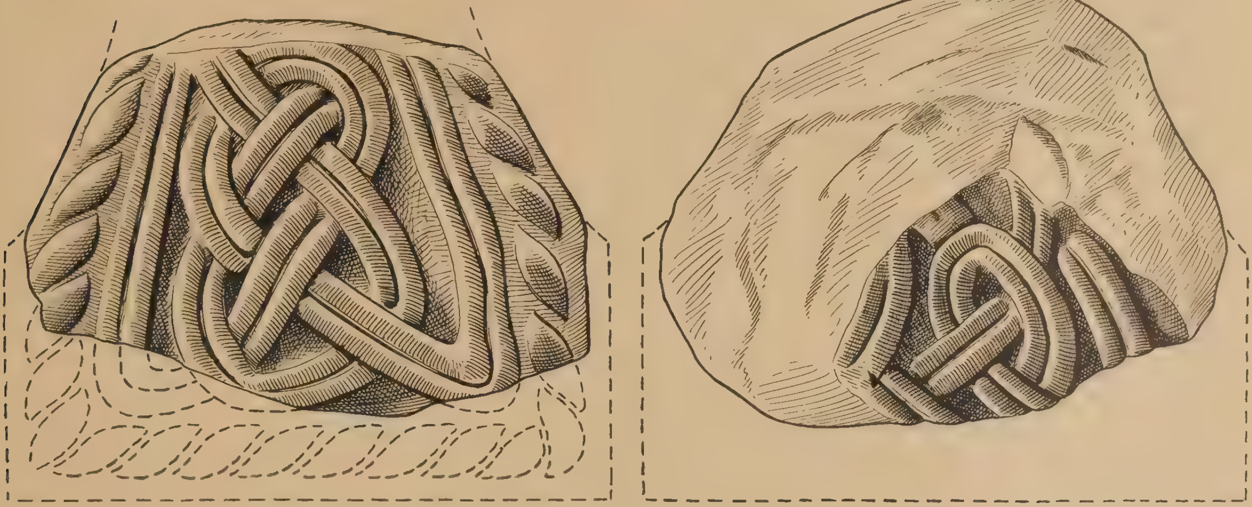

Fig. 3. Cross no. 20 ($\frac{1}{2}$)

20. Arm of a cross with well-cut plait work filling both faces and cable ornament on angles (fig. 3).

21. Small standing cross with two-strand interlace on head and a Runic inscription with an initial cross on the shaft (pl. XXV, *c*). No part of the edge is preserved. The back is undressed, a feature which may be due to the flaking off of this face when the cross was destroyed. The exact form of the monument is uncertain, but the general type may be compared with the Glamorgan group which includes the cross at Llantwit erected by Hywel for the soul of his father Rhys.[1] The interlace of this group is later in character than that on the cross from Whitby, which may be regarded as one of the models of the new type of monument introduced into Glamorgan in the third quarter of the ninth century. The cross from Whitby should therefore be ascribed to the period 800–850.

22. Fragment of the shaft and base of a standing cross (pl. XXIV, *b*). The shaft which is about 8 in. wide and slightly tapering increases to 1 ft. a few inches above the base. The shaft is outlined by a double incision and the base is framed on the bottom and sides by two plaited cords.

[1] Westwood, *Lapidarium Walliae*, pl. 5; *Arch. Camb.*, 1938, p. 48.

23. Fragment of a similar base (pl. XXIV, *a*). The end of the double outlines on the shaft and foot are turned in to form opposed spirals which fill the expansion of the base.

24. Flat slab. Linear incised decoration on one face. Reverse plain. Purpose uncertain.

25. Similar slab. More elaborate decoration.

26. Flat slab 1 ft. 9 in. wide by 1 ft. 3½ in. long. The slab is broken and the original length uncertain. The sides are dressed, but the reverse has been left rough. On the surface are a series of rough incisions all of different depths and cut in various ways. These appear to be later and have no obvious meaning. The slab may have been designed as the mensa of an altar. Its date is uncertain though probably Saxon.

The Inscriptions

Two flat slabs and several of the crosses already described bore inscriptions in Latin or Runic[1] characters. Many of these are so defaced as to be illegible and others are incomplete. The most interesting (no. 1) is the fragment of the epitaph set up to the Abbess Aelflaed, the successor of St. Hilda.

The Alphabets. In the early Middle Ages the inscriptions of Northern Europe show a gradual break with the classical tradition of the late Empire and a tendency to use literary forms on stone. This process was facilitated by the custom of painting the inscription on the stone[2] as a guide to the mason, a process which was probably entrusted to a literate scribe who would tend to use the forms habitual to him. On occasion the two functions would be filled by the same person.[3] The normal Latin script in Northumbria is an Insular majuscule, though reversions to a more monumental type occur (e.g. no. 2 below). Ornate forms are at times found, and these must be connected with the elaborate capitals used in the most important manuscripts, a connexion thrown into relief by the passage already cited.

Formulae. Few of the inscriptions are sufficiently complete to yield the whole formula, but the absence of *Ora pro* followed by the name of the deceased is noteworthy. This formula appears on some of the 'pillow stones', and the parallel Irish *Oroit do* is found in the early series at Clonmacnois. The eulogy of Aelflaed and the *hic requiescit* of no. 3 are in the early Christian tradition and a similar conservatism is apparent in the inscriptions on the cross at Hackness, a daughter house of Whitby.[1]

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[1] Owing to war conditions it was unfortunately found impossible to include a detailed commentary on the Runic inscriptions (pl. XXV) which were not available for examination at time of writing.

[2] Pillar of Eliseg Conmarch (first half of ninth century), 'pinxit hoc chirografum rege suo poscente' (*Arch. Camb.*, 1938, p. 43).

[3] Cf. *Chronicon S. Huberti Andaginensis* (St. Hubert in the Ardennes). Among the list of monks (*c.* 1050) '. . . Falconem praecentorem . . . in illuminationibus capitalium litterarum et incisionibus lignorum et lapidum peritum . . .' (*Mon. Germ. Hist.*, Scriptores VIII, 572–3).

Position. The two longer inscriptions (nos. 1 and 2) were cut on flat slabs intended to be placed on the walls of the church in which the bodies were buried or to which they were translated. In Saxon times burial within the church, generally in an aisle or porticus, was reserved for important royal or ecclesiastical persons. An almost contemporary record of Whitby describes the burial of Edwin and other members of the royal house to the south of the altar of St. Peter and east of the altar of St. Gregory,[2] a position indicating a south porticus like that in which King Aethelbert and Queen Bercta were buried in the Saxon church at St. Augustine's at Canterbury.[3] The other inscriptions were found on the funerary crosses already described, which stood in the cemetery.

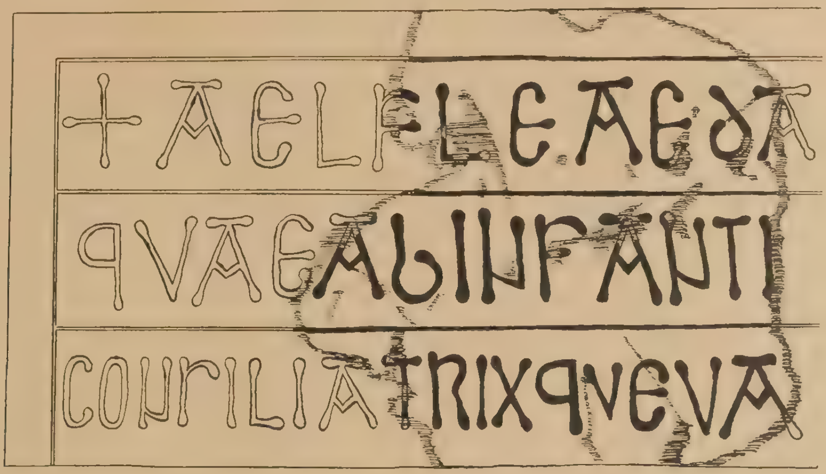

Fig. 4. Epitaph of Abbess Aelflaed (½)

1. Fragment of a flat slab with an inscription in three lines (pl. XXIV, *c* and fig. 4). The extreme measurements of the fragment are 7 in. wide by 6 in. high. The top edge remains with a plain margin ½ in. wide, below this the lines of the writing are separated by horizontal incisions. The flat lower edge and the absence of either incision or margin suggest that the inscription was continued on another slab giving a length of at least six lines. The lettering, a mixture of capital and Insular majuscule, is interesting as showing the extent to which the latter script could be introduced into an important inscription at the beginning

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[1] The date of this cross has been much disputed, but there seems no valid reason for rejecting Father Haigh's original identification (*Yorkshire Arch. Journ.*, iii, 372) of the Oedilburga commemorated with the abbess present at the death of King Aldfrith in 705 (Eddius, *Vita S. Wilfridi*, 59, in *Historians of Church of York*, i, 88, Rolls Series).

[2] *Vita S. Gregorii*, cap. xix, in *Historische Aufsätze . . . G. Waitz gewidmet*, p. 53.

[3] *Archaeologia*, lxxvii, 203, and pl. xxx.

of the eighth century. B, D, F, N, Q, and R are purely Insular forms. A is an ornamental capital of a type used in the decorative parts of the Lindisfarne Gospels, but not in the text. E is an Insular form, though a similar letter had been in use in Gaulish and Insular Celtic inscriptions since the sixth century. L, T, V, and X retain the angular forms normal to Roman capitals. The terminal thickening of the strokes may be compared with the ornamental serifs of the Insular script (see below).

+ AEL]FLEAEDA
QVAE]AB INFANTI[A
CONSILIA]TRIXqVE VA[S

Line 1. The restoration of initial F and final A is certain.

Line 2. The initial A is certain. The final letter could be F, H, I, L, M, N, P, or R, but the sense makes I certain.

Line 3. The horizontal preceding the T must be A, F, or T.

The first line suggests the name of Abbess Aelflaed. After the victory of Windwaedfield (15th November, 655) King Oswy of Northumbria dedicated to perpetual virginity his daughter then barely a year old. She first went to Hartlepool where St. Hilda was then abbess and followed her to Whitby.[1] After the death of Hilda (680) she ruled the monastery, at first in conjunction with her mother, the widowed queen, Eanfled.[2] She was a friend of St. Cuthbert[3] and played a part in the controversy about St. Wilfrid.[4] She died in 713 or 714. Her relics and those of her father were recovered after the Norman Conquest.[6]

The record of her dedication as an infant makes the identification certain and the restoration in line 2 follows. In line 3 the spacing of the letters is more crowded than above, but following the proportion to the margin established by the first two lines *consiliatrix* is possible. The next word is probably *vas* followed by *electum* or some similar adjective.

2. Fragment of a flat slab with an inscription in two lines (pl. xxv, *a* and fig. 5). The extreme measurements of the fragment are 6 in. wide by 4 in. high. A part of the top margin 1 in. wide remains. The letters, 1½ in. high, are capitals with wedge-shaped serifs and a tendency to produce lines beyond the point of intersection. Most of the forms can be found in the ornamental

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[1] Bede, *Hist. Eccl.*, iii, 24.

[2] *Ibid.*, iv, 26.

[3] Bede, *Vita Sancti Cuthberti*, passim, and *Vita S. Cuthbert auctore anonymo*, passim.

[4] Eddius, *Vita Wilfridi Episcopi*, capp. 43, 59, and 60, in *Historians of the Church of York*, i, 61 and 88–92, Rolls Series. Aeddi in his account of the synod by the River Nith refers to her as 'beata Aelfleda abbatissa, semper totius provinciae consolatrix optimaque consiliatrix' (*ibid.*, cap. 60).

[5] Bede, *Hist. Eccl.*, iii, 24, 'completo . . . LX annorum numero' implies the latter; Ann. Lauresheim, in *Mon. Germ. Hist.*, Scriptores I, 24, and Ann. Ult., both *s.a.* 713.

[6] William of Malmesbury, *Gesta Pontificum*, iii, 116, Rolls Series, p. 254.

capitals of the Lindisfarne Gospels, but the G and N belong to the older lapidary tradition.

CV]NVBVRG[A
M]IS ETIA[M

Line 1. Initial N is certain. The preceding oblique stroke must represent N or V. Final G is certain.

Line 2. The letters are all incomplete, but the identification is certain.

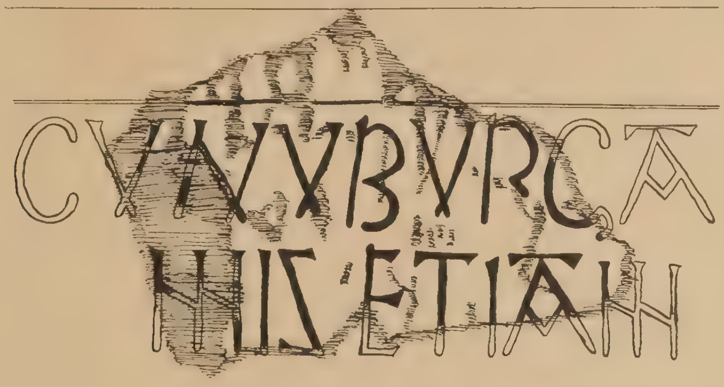

Fig. 5. Epitaph of Cyneburg (½)

The letters in the first line suggest a proper name, most probably Cunuburga or Cyneburga. This name appears three times in the early rubric 'nomina reginarum et abbatissarum' of the *Durham Liber Vitae* (Surtees Society, vol. 13, p. 3). The best known St. Cyneburg, the wife of Alchfrith sub-king of Deira, who is probably commemorated on the Bewcastle Cross, entered a monastery when she became a widow. She was buried at Castor and translated to Peterborough in the eleventh century.[1] According to Reginald of Durham,[2] who wrote in 1165, the wife of St. Oswald, king of Northumbria (*obiit* 641) also bore this name. Bede[3] says that Oswald married a daughter of Cynegils, king of Wessex. He does not mention her name, but she may well have repeated the initial theme of her father's name in her own. St. Oswald himself after a temporary interment at a place now unknown was buried at Bardney Abbey,[4] but there is no mention of his wife being buried with him and we should naturally expect her to have lain at Whitby with the other members of the Northumbrian royal house.[5] The lettering suggests the seventh or early eighth century rather than a later period, and the form of the memorial indicates a person of importance, so that we may tentatively identify this fragment as belonging to the epitaph of Cyneburg, the wife of King Oswald.

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[1] Plummer, in Bede, *Hist. Eccl.*, ii, 175.

[2] *Vita S. Oswaldi*, cap. xi; *apud* Symeon of Durham, in Rolls Series, i, 349.

[3] *Hist. Eccl.*, ii, 7.

[4] *Op. cit.*, iii, 11.

[5] Cf. *Vita S. Gregorii*, cap. 19, speaking of the translation of King Edwin 'hec eadem sancta ossa cum ceteris conduntur regibus nostris' in *Historische Aufsätze*, ut supra.

3. On no. 11 in two lines occupying the centre of the cross (pl. xxii, *c* and fig. 6). The letters are capitals, the E and H of the modified forms frequently found in Christian inscriptions of the sixth and following centuries. The spacing suggests the following restoration:

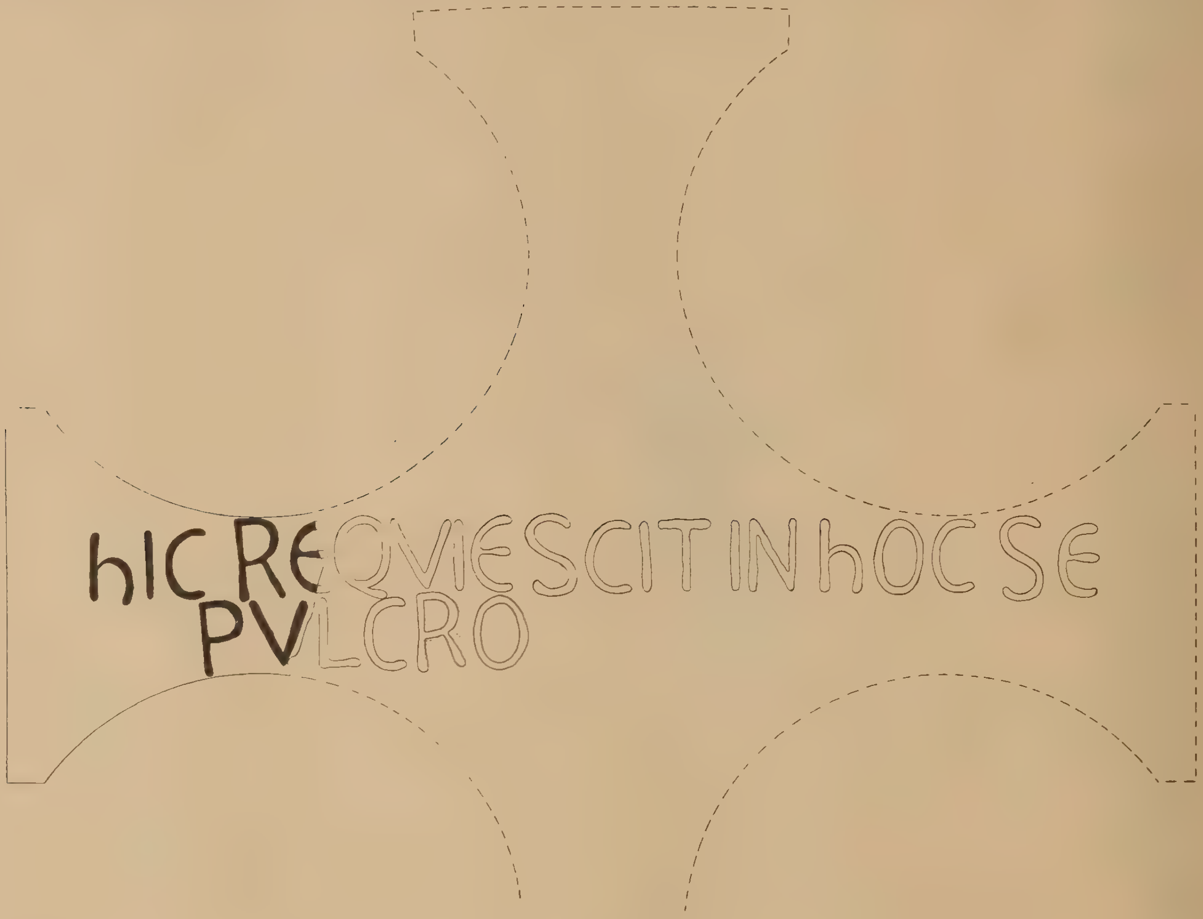

Fig. 6. Cross no. 11 ($\frac{1}{4}$)

HIC RE[QVIESCIT IN HOC SE
PV[LCRO

The formula with the duplication *hic* . . . *hoc* is found on the Continent. A symmetrical arrangement of the second line would require a name of eight letters. The absence of purely Insular forms and the regular cutting may be compared with the Ovinus stone now at Ely.[1] This suggests an early date, but those criteria are not decisive and it would in any case be rash to argue dogmatically from the small number of letters preserved.

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[1] Baldwin Brown, *Arts in Early England*, v, pl. xxii.

4. On no. 12 a name with initial and final crosses (pl. XXII, *a* and fig. 7). The letters are well-cut Insular majuscule, the A having the uncial form as in some contemporary English manuscripts.[1] The open base to the loop of the B is abnormal.

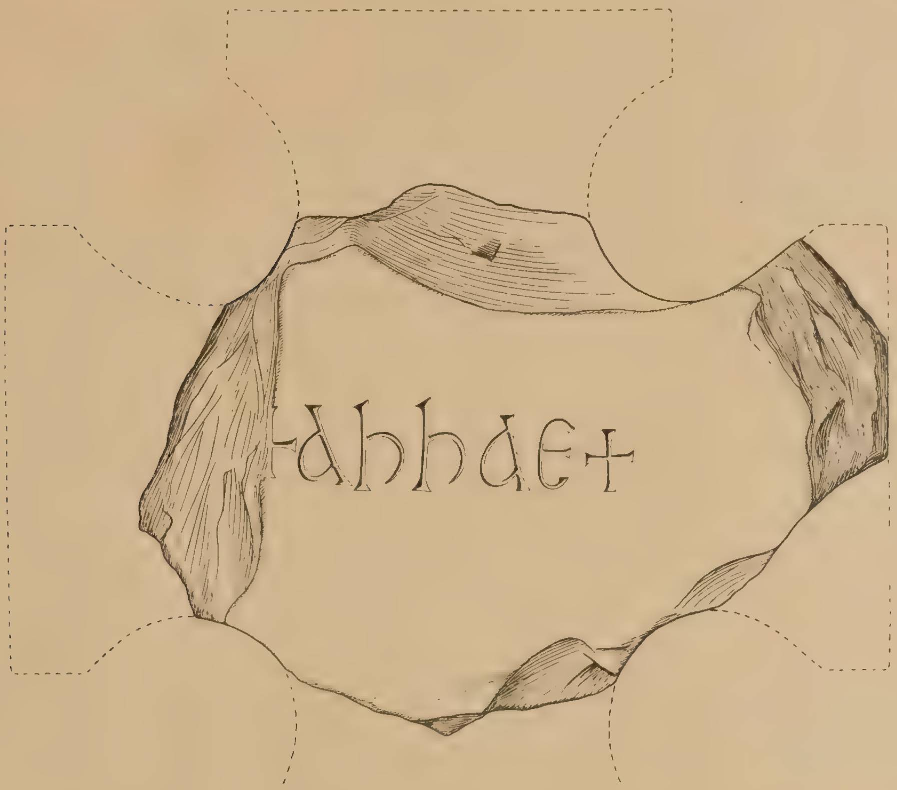

Fig. 7. Cross no. 12 (1/4)

+ ABBAE +

The simple name preceded by a cross is common in the earliest series of Irish slabs which must begin at least as early as the seventh century. Several ladies named Abba are recorded, the best known being abbess of Coldingham in the late seventh century. None of those recorded can be connected with Whitby.

5. On no. 18 a name with no initial cross (pl. XXII, *d* and fig. 8). The surface of the stone is much damaged, especially in the centre of the inscription. The letters are badly set out and spaced. The initial E of the rounded form (cf. no. 3 supra) and the following O are faint but certain. Of the next letter only a curve and the doubtful base of an upright remain but an uncial M is the most likely

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[1] e.g. the Lindisfarne Gospels: Lowe, *Codices Latini Antiquiores*, ii, no. 187; cf. p. xi.

restoration. The top of the right-hand stroke and other traces make it probable that the fourth letter was an angular V. The faint horizontal stroke connecting the two following uprights indicates a capital N of a type known in Welsh inscriptions of the sixth and seventh centuries. The final half-uncial D is clear. The mixed forms compare with Welsh stones of the early series (fifth to seventh centuries) and suggest a date early in the history of the Abbey. The absence of an initial cross points in the same direction. But the second criterion is not decisive, and the bad preservation of the stone weakens any conclusion based on the form of the lettering.

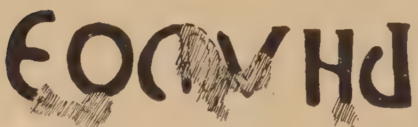

Fig. 8. Cross no. 18 (½)

EOMUND

The name in this form is borne by the moneyer of Eardwulf, king of Northumbria (796–806).[1]

6. In four lines filling the centre of cross no. 13 (pl. XXIII). The lines are incomplete at each end, where four or five letters are missing. The surface of the stone is much weathered and badly defaced by subsequent cuts. The following letters can be deciphered. A dot is placed over the doubtful identifications and figures denote the probable number of the missing letters.

Line 1 ĖQUIĖṠĊENTCOR
Line 2 A 3 AEḢ
Line 3 INA 5 FL̇
Line 4

The letters are Insular majuscule with the exception of the A which is a capital form similar to that used in no. 2. The first line may be restored with some confidence HIC R]EQUIESCENT COR[PORA but no continuation can be suggested.

Small Objects of Metal, Jet, Bone, Glass, etc.

The excavations produced a large number of small objects, principally of metal. Many of these were associated with the early buildings, though others lay in strata disturbed in later times. Among the latter[2] were a small number of objects of post-Conquest date which are of little interest and have therefore been omitted from this report. Those described belong to the Saxon monastery, which was occupied between the middle of the seventh century and the third quarter of the ninth, a dating which is confirmed not only by the numismatic evidence (pp. 85–6) but by the character of the objects. The distribution of the coin series, with its accumulation of issues belonging to the closing decades of the occupation suggests that a majority of the other small objects may also be attributed to the ninth rather than the preceding centuries, and this is borne out by the large series of tags.

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[1] Keary, *British Museum Catalogue of English Coins: Anglo-Saxon Series*, i, 143.

[2] *Ant. Journ.*, xx, 508.

While preserving a general arrangement by materials it has seemed desirable in certain cases to describe fragments, the use of which is not in doubt, in connexion with other objects of the same class.

Objects of Metal

Objects of Ecclesiastical or Liturgical Use

As might be expected the more costly and more ornamental pieces belong to objects connected with the service of the church. Personal property was not allowed to individual nuns, and although we know that this rule was either relaxed or disregarded in individual cases (cf. p. 64) there is no evidence of personal luxury among the finds from Whitby.

Among the more interesting remains are the fragments of the hanging bowls, which served as lamps and church decorations, the book covers, the small tags which are interpreted as book markers, and the fragmentary mountings of various types. Some of the smaller keys (nos. 89–92) may have belonged to shrines or caskets and the smaller mountings of glass or glazed pastes (nos. 33–4) were probably settings of shrines or book covers.

Hanging Bowls :

No complete hanging bowl was discovered, but a small fragment of a hollow rim certainly belongs to a bowl of this type and pieces of thin sheet metal may have formed part of similar vessels. Scutcheons, plaques, applied strips, and a bronze chain, belonging to at least four bowls were found.

The bowls from Whitby are structurally the direct successors of those found in Pagan Saxon graves.[1] Some of these already include Christian symbols, and the greater development of the ornamental strips and plaques is foreshadowed by the Lullingstone bowl, which dates from the earlier part of the seventh century.

The purpose of these bowls is decorative. The ornamental use of silver and gold vessels hanging on the walls is already shown in Roman frescoes, and this custom was taken over and developed by the Christian church. The *Liber Pontificalis* and other documents record early gifts of vessels or chalices beyond the number required for liturgical purpose, and at times the decoration (*ad usum et ornatum*) of the church is specifically mentioned.[2] This custom reached its greatest extension in Carolingian times, when princely gifts are recorded like that of Pope Leo III (795–816) who gave to San Paolo fuori le Mura at Rome

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[1] *Antiquity*, vi, 161.

[2] *Liber Pontificalis*, ed. Duchesne, i, 376: Pope Sergius, 687–701.

51 great chalices of silver to hang in the arches of the transept and the nave arcades.[1]

Vessels of gold and silver are normally recorded in the inventories, but the use of baser metals is only to be expected in remoter and poorer provinces such as Britain. Bronze in particular may have been favoured in view of the belief that the nails which fixed our Lord to the Cross were of this metal.[2]

This use of hanging vessels was not confined to churches and appears in contemporary illustrations.[3] It is also reflected in the arcaded pages with chapter headings or canon tables.[4] Though often purely decorative, these bowls were also put to a practical use and made to serve as receptacles for storing other objects (e.g. the vessels used in the Mass) and as lamps, which were very numerous.[5] Deep bowls serving as lamps appear in contemporary illustrations.[6] Their use with a wick held aloft by a leaden tripod and a linen thread hanging down into

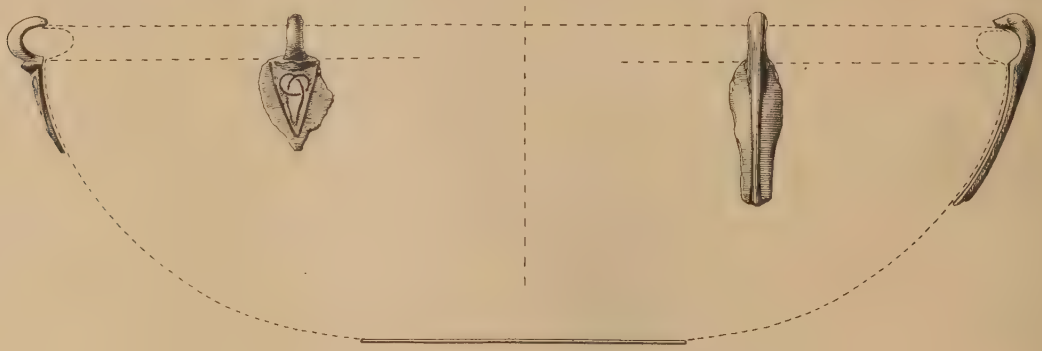

Fig. 9. Hanging Bowl with scutcheons nos. 2 and 3 ($\frac{1}{2}$)

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[1] *Liber Pontificalis*, ed. Duchesne, ii, 13: 'Predictus uero uenerabilis pontifex [*sc.* Leo III] fecit in basilica doctoris mundi beati Pauli apostoli calices maiores fundatos ex argento purissimo, ex ipsius apostoli donis, qui pendent in arcora maiora, numero xi, et alios qui pendent inter columnas maiores dextra leuaque numero xl pens. simul lib. cclxvii.'

[2] Cf. the use of a bronze chalice by St. Columbanus; *Vita S. Galli*, by Walafrid Strabo in Mabillon, Acta SS. ord. S. Benedicti, ii, 229: 'Nam preceptor meus Beatissimus Columbanus in vasis aeneis Domino solet sacrificium offerre salutis: quia fertur et Salvator noster clavibus aeneis Cruci confixus.'

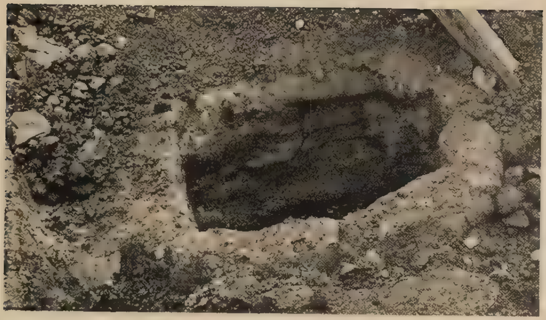
[3] e.g. that of Charles the Bald enthroned: Paris MS. lat. I, fol. 423; Omont, *Peintures de la première bible de Charles le Chauve*, pl. VIII.

[4] *Ibid.*, pl. IX–XVI.

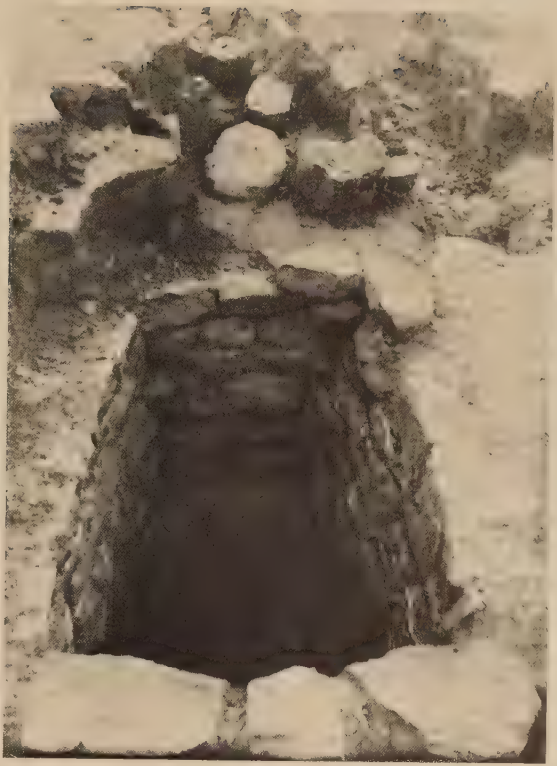
[5] Alcuin, *Versus de sanctis euboricensis ecclesiae*, 280 sq., in *Mon. Germ. Hist.: Poet. Lat. Medii Aevi*, i, 176:

> Sanctaque suspendit [*sc.* St. Oswald] varios per tecta lucernas,
> Esset in templis caeli stellantis imago,
> Christicolasque greges duxit devotus in illis,
> Ut fierent domino laudes sine fine canentum.

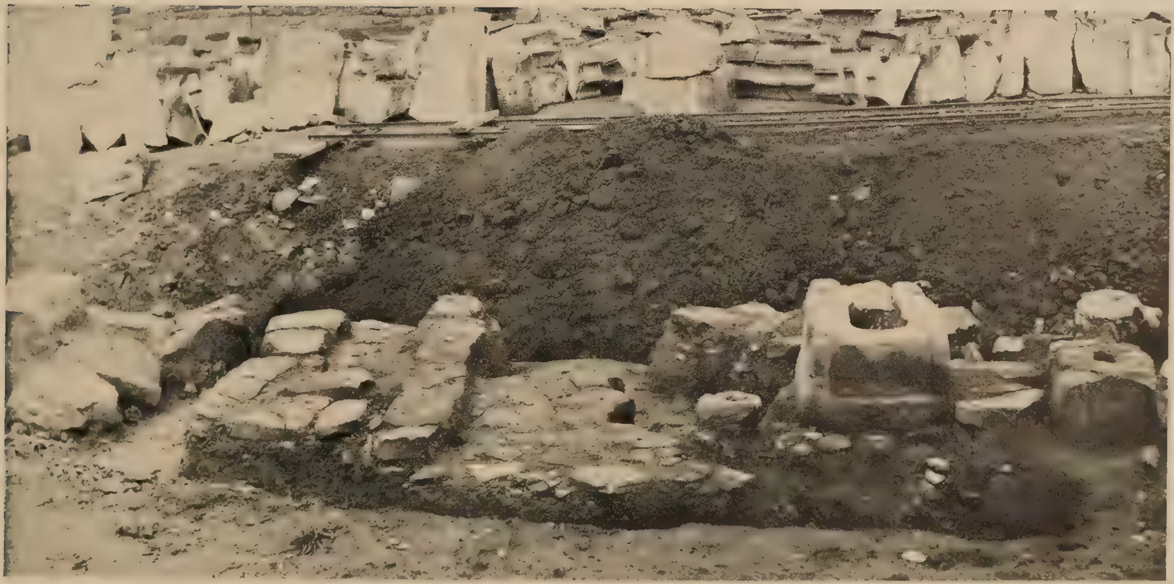
[6] e.g. Petrograd Qu. I. N. 13, fol. 3 b = Zimmermann, *Vorkarolingische Miniaturen*, pl. 88.



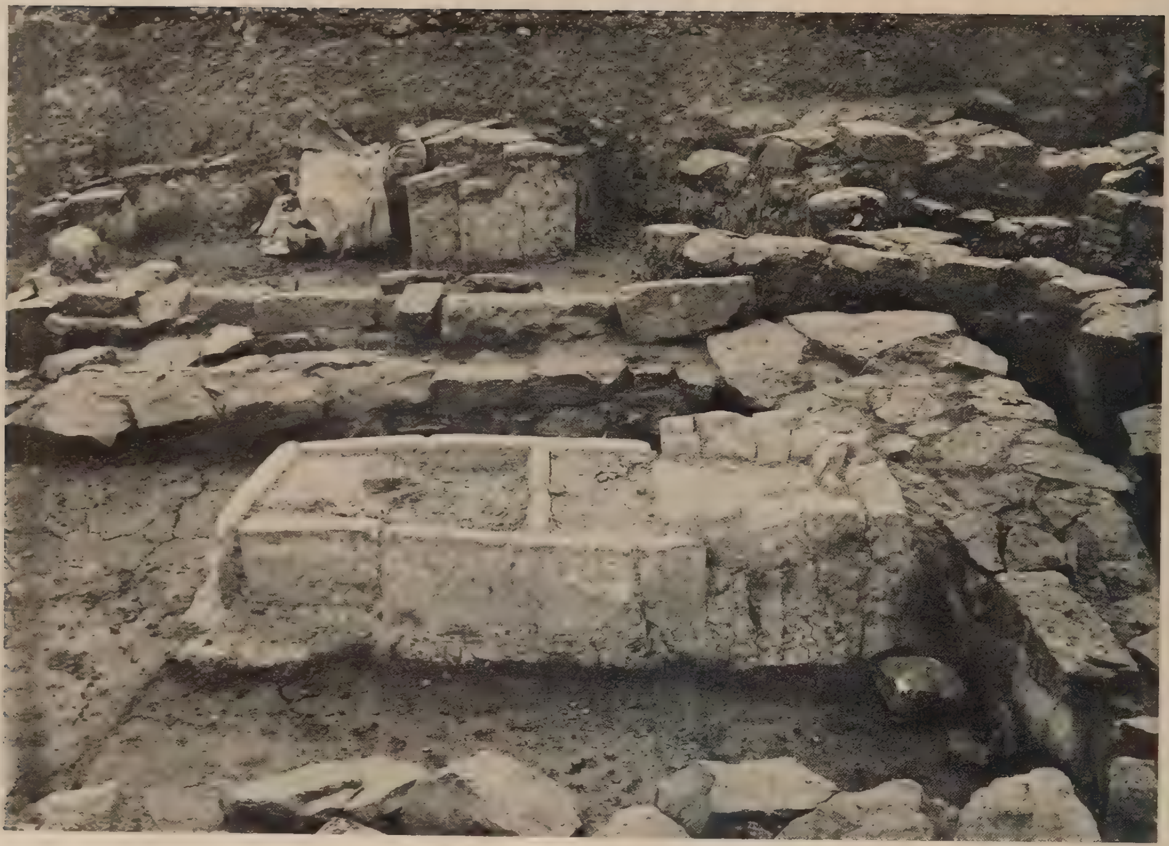
a. Well for surface water



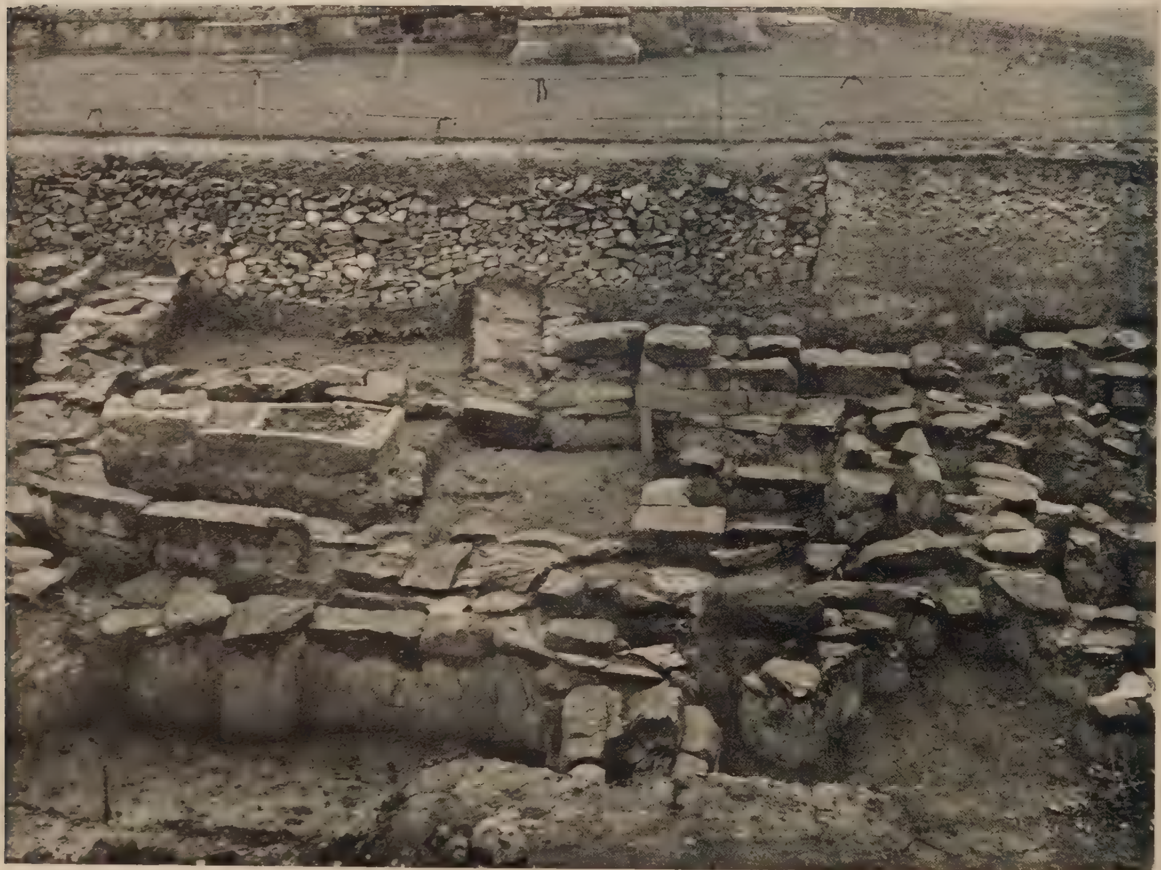
b. Stone grave of early character



c. Cross-bases



a. Hearth in the 'Smithy'



b. The 'Smithy'

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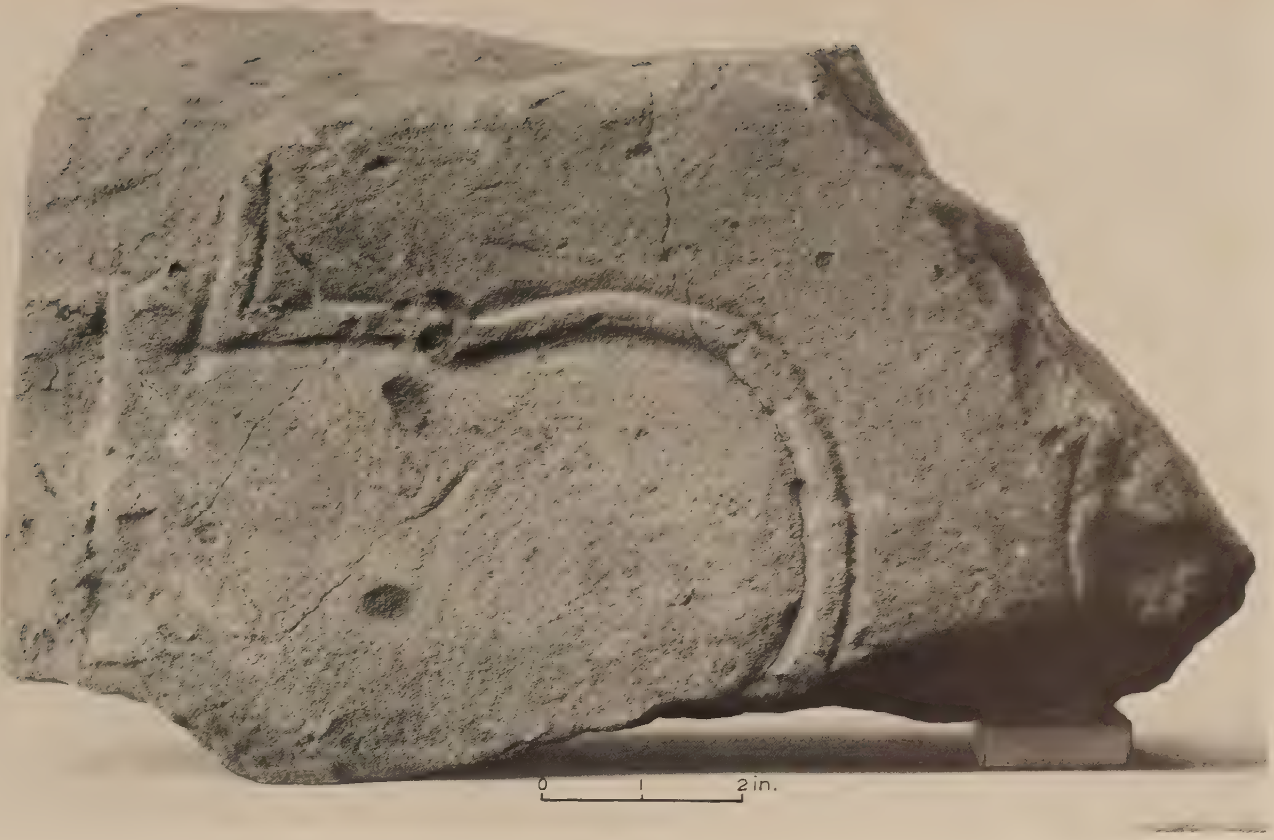
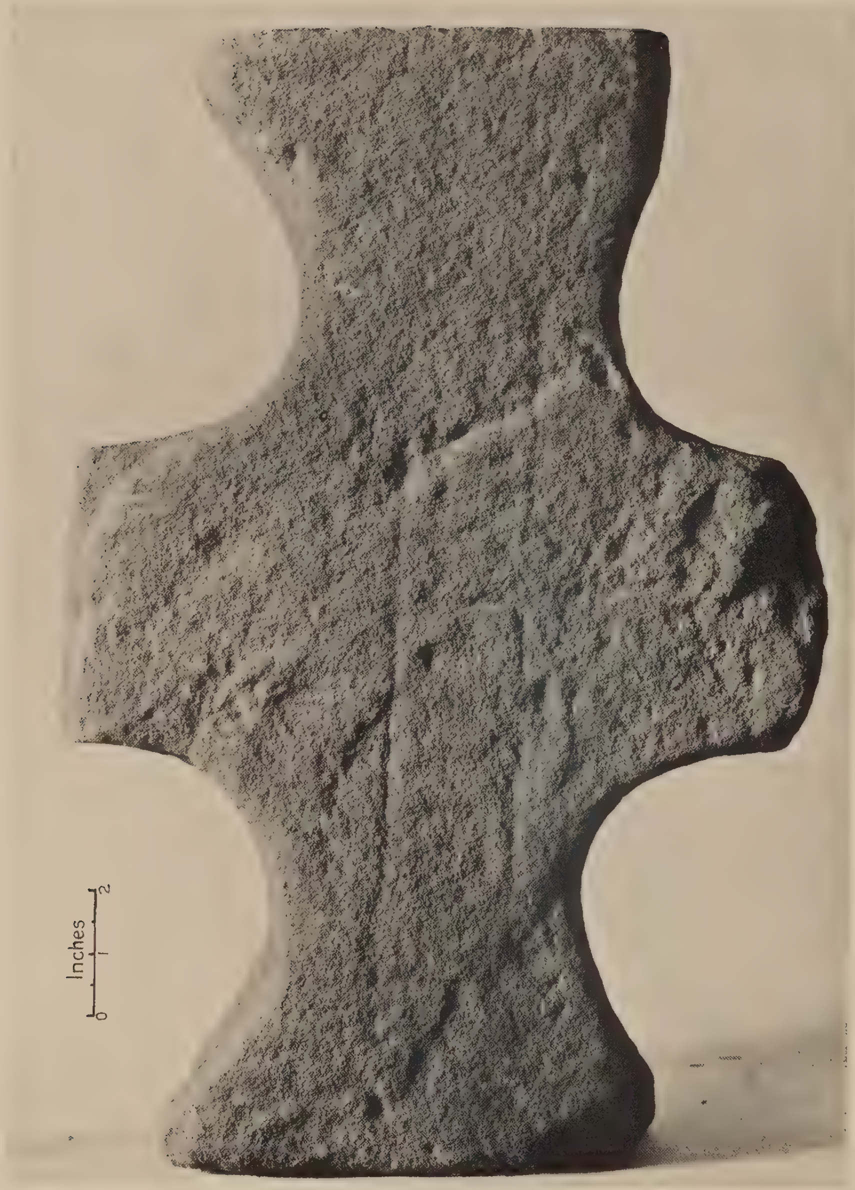
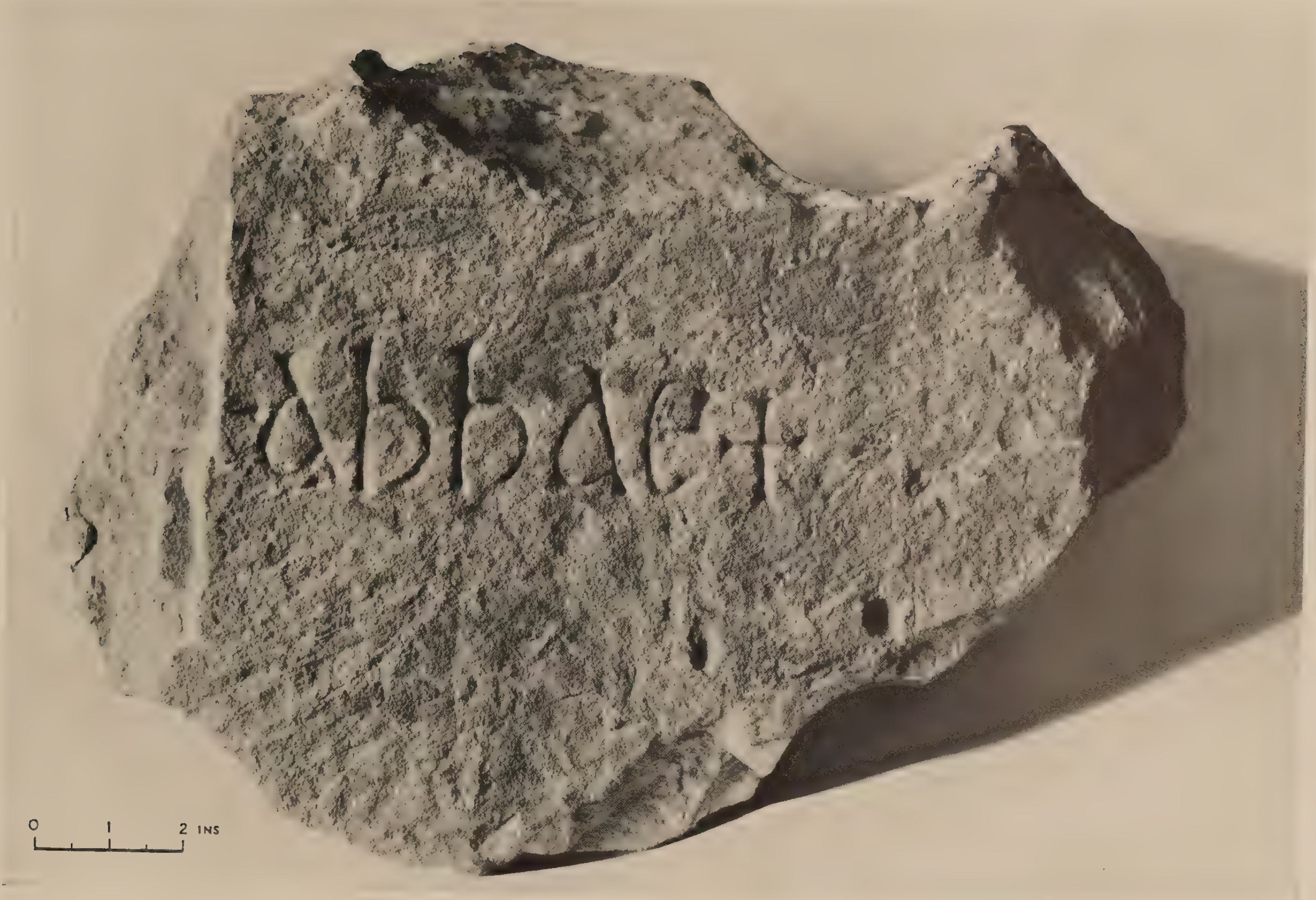


a. Slab no. 1

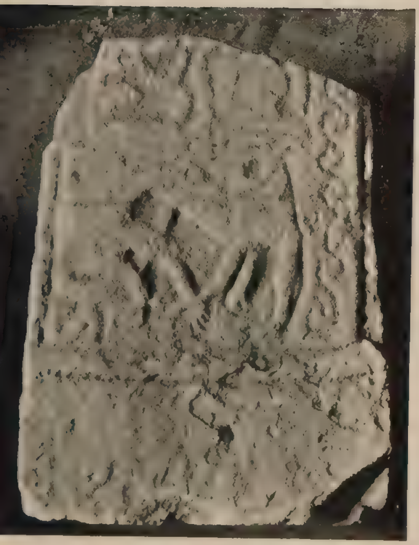
b. Slab no. 1



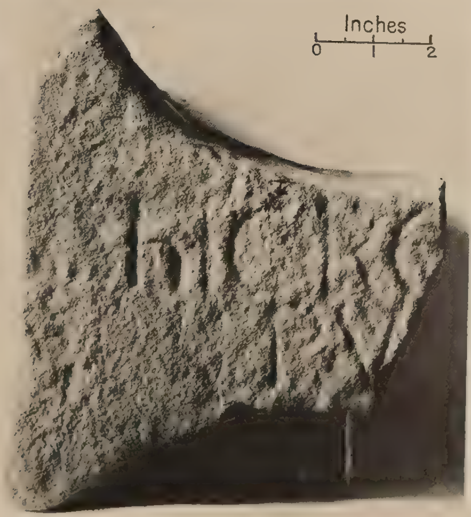
Cross no. 10



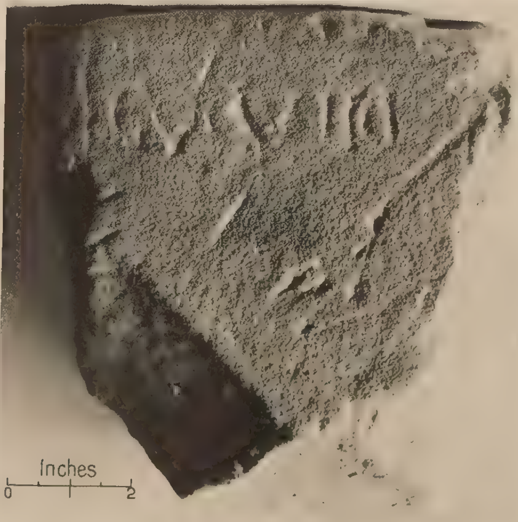
a. Cross no. 12



b. Cross no. 2



c. Cross no. 11



d. Cross no. 18

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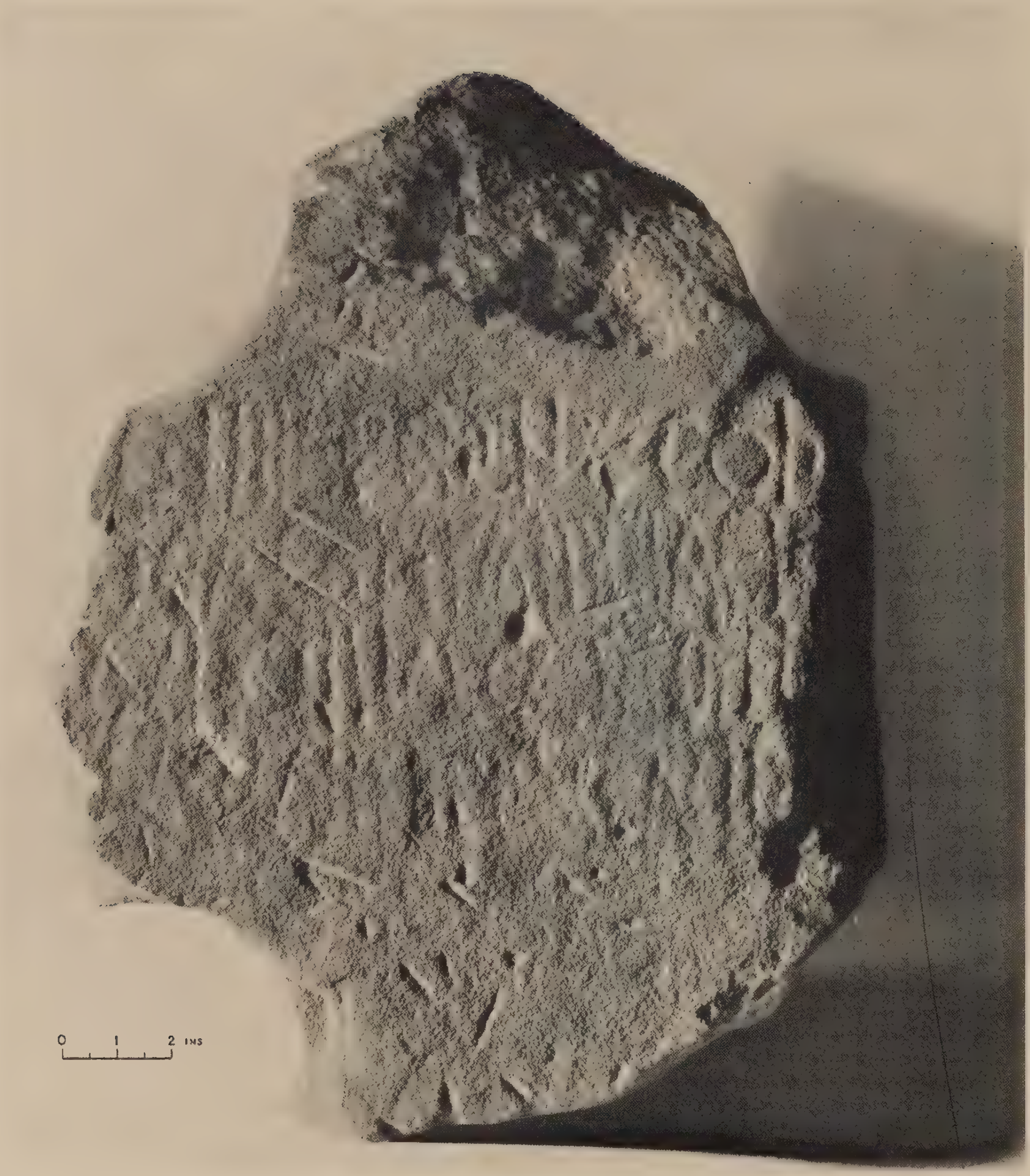
PLATE XXIII



Cross no. 13

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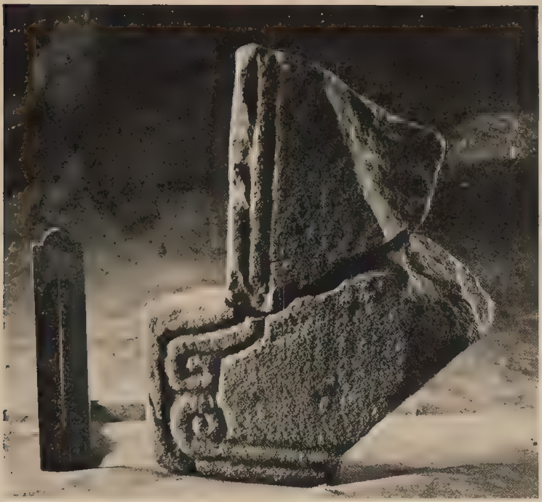
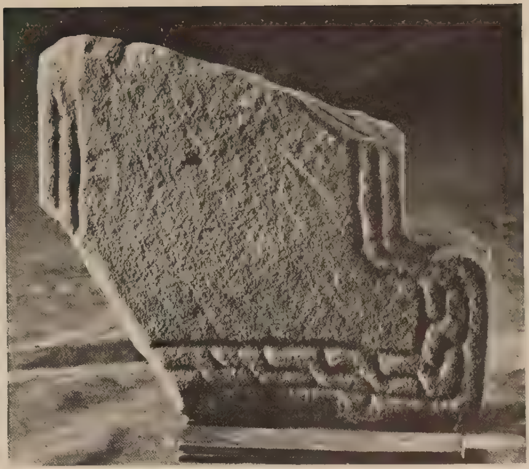
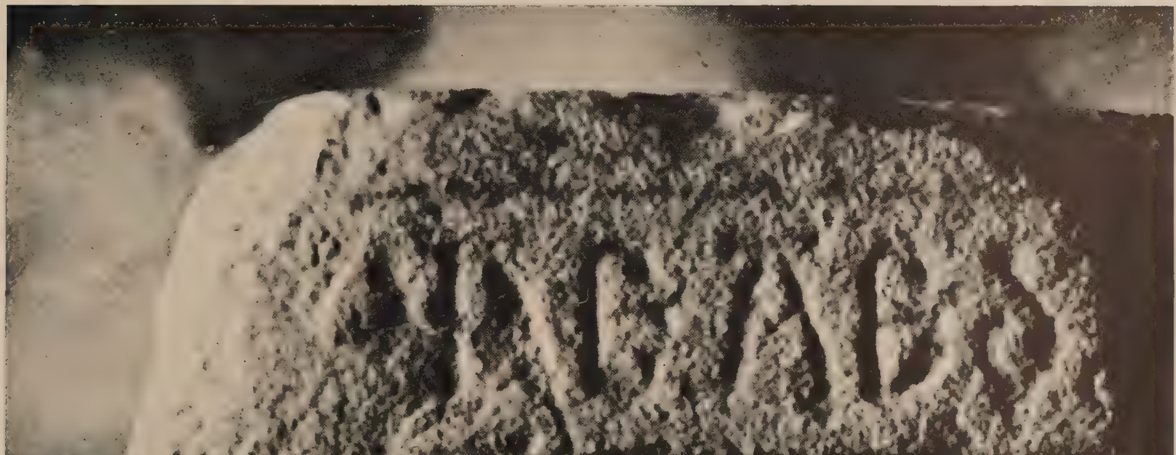


a. Cross no. 23



b. Cross no. 22



c. Epitaph of Abbess Aelflaed

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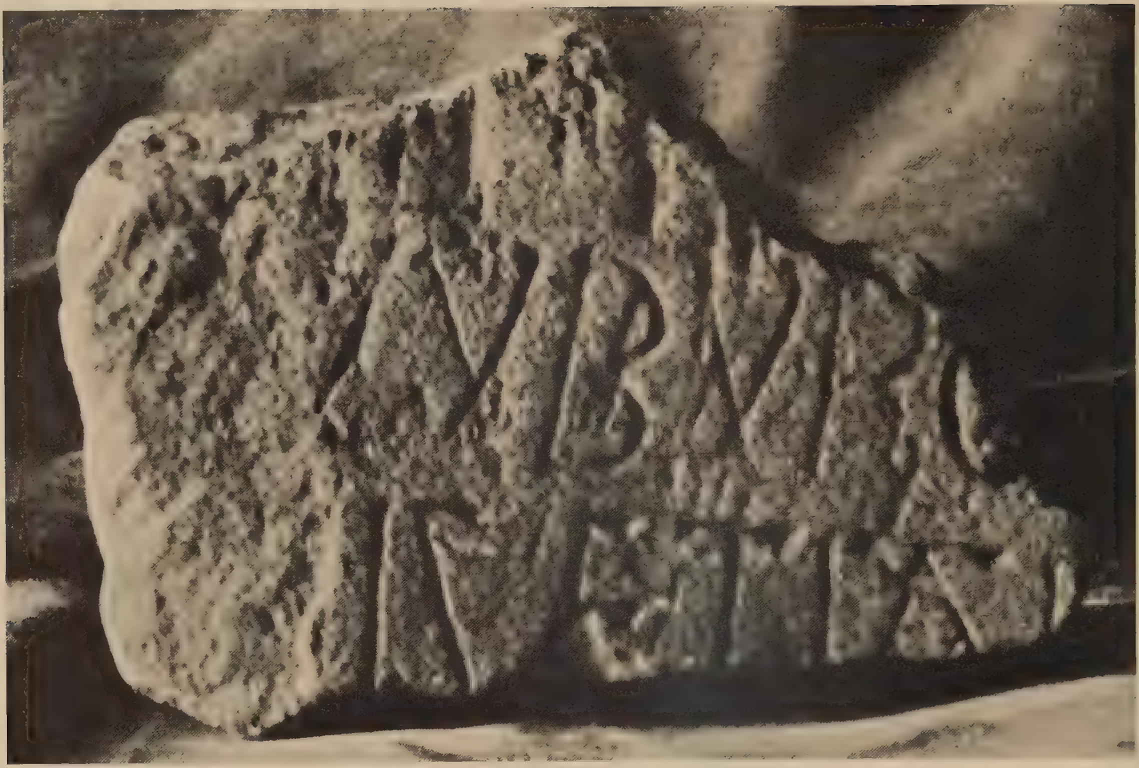
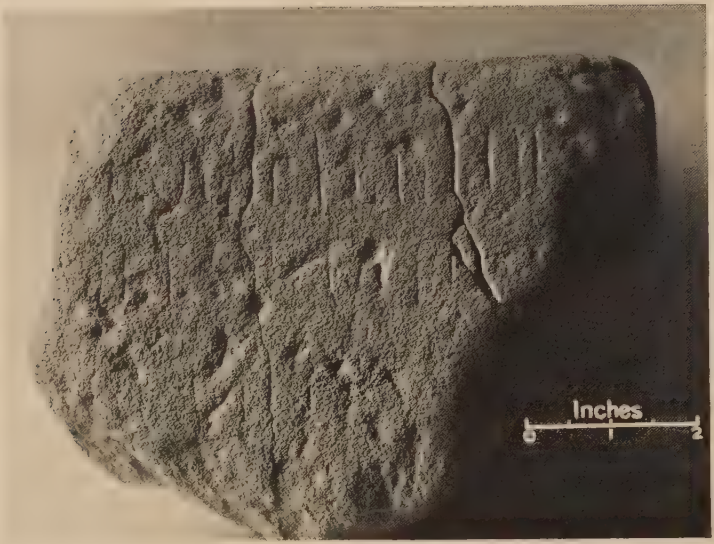
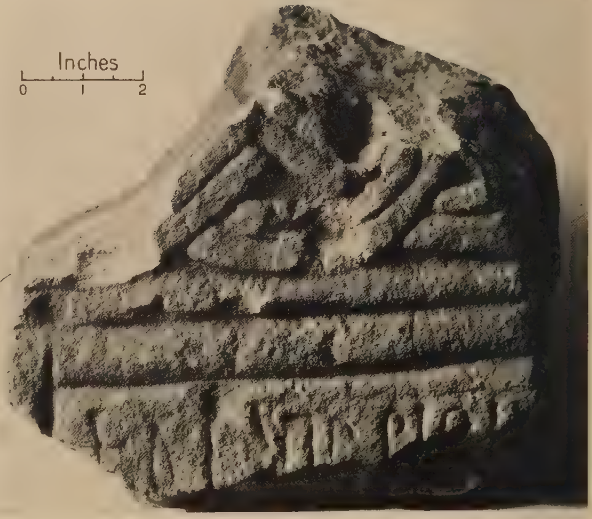
Plate XXV



a. Epitaph of Cyneburg



b. Cross no. 14



c. Cross no. 21

the oil which floats on the surface of water filling the vessel is described by St. Paulinus of Nola.[1]

1. Heavy heater-shaped scutcheon, belonging to a large bowl over 1 ft. in diameter. The back is flat for soldering to the bowl. The top with the projecting head for attachment to the chain is missing and the bottom is broken. Of the two crescent-shaped projections which emphasize the greatest width of the scutcheon only that on the right is perfect. The surface is filled with champlevé enamel, the design in red on a yellow ground. A cross with slightly expanded arms fills the centre of the field. Between each arm is a triquetra. The cross stands on a quatrefoil knot. The interlace is carelessly drawn. Width, overall, 2·2 in.; height, 2·35 in. (pl. XXVI, *c* and fig. 10, 9).

2. Small heater-shaped scutcheon with plain hooked head. A part of the metal bowl is still fixed to the back of the scutcheon and the bronze head is distorted by corrosion. The edges of the scutcheon and the design, an interlaced knot with pendant ends, are in metal, while the field is filled with red enamel. Width 0·5 in.; height, of scutcheon, 1 in., overall, 1·4 in. (pl. XXVI, *c* and fig. 9).

3. Plain elongated scutcheon designed as a bird. The edges are wasted by oxidization. The end of the head is slightly modelled to show the bird's head and the beak, which is notched on the underside to clip over the rim of the bowl. The line of the head is carried down the scutcheon as a central rib. The tip spreads out to indicate the bird's tail. Length, overall, 2 in.; width, 0·6 in. (fig. 9).

4. Small plain ovoid scutcheon with plain head. The notch on the underside of the head is clearly shown. The scutcheon is exceptionally thick and the back is hollow with a flat rim which alone could have been soldered to the bowl. Height, 1·25 in.; width, 0·4 in. (fig. 10, 11).

5. Bronze roundel. The back is flat for soldering, and the single rivet suggests the attachment for a central setting. One edge is broken, and the metal is oxidized in many places. The curvature of the bronze, though distorted, is probably original, in which case the roundel was not a print but a decorative plaque applied to the side of a large bowl (cf. the Lullingstone bowl). The surface is decorated with red champlevé enamel. In the centre a circle, now empty, held a jewel or some other ornamental inlay. This is surrounded by a continuous design of seven returning spirals. Diameter, 1·8 in. (pl. XXVII, *a*).

6. Part of an applied relief from a bowl. The fragment represents the tail of a fish, probably a dolphin; the design is slightly moulded and outlined, and the tail emphasized with hatching. The Lullingstone bowl shows that figures of animals, etc., were applied

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[1] Carmen xxiii, 124 sqq.; *C.S.E.L.*, Vienna, 1893, vol. xxx, 198:

> comminus in medio tecti cameram inter humumque
> mutabat solitus lychnum suspendere funis.
> innectens triiugum supremo stamine ferrum,
> quo uitreae inseritur penetrabilis ansa lucernae
> auritusque calix tribus undique figitur uncis.
> funditus albet aqua super undam flavet oliuo.
> . . . .
> mergitur in medio plumbum tripes, et cauus illo
> extat apex uncti stipatus fomite lini.

to these bowls. In view of its Christian symbolism the fish would be particularly appropriate for an ecclesiastical vessel. The projections carrying the individual lights of the great hanging lamps of the Early Christian Church were very frequently modelled as dolphins (fig. 10, 10).

7. Part of bronze base ring intended to be soldered to a small bowl. The simplest form of applied decoration on hanging bowls consists of a circular base ring with vertical strips joining it to the scutcheon (e.g. the bowl from Faversham: *Antiquity*, vi, 170, pl. III). These are not only ornamental in character but designed to strengthen the vessel at the points of greatest strain. The maeander pattern on this fragment from Whitby can be paralleled on the Lullingstone bowl (*Antiquity, ut supra*, pl. IV) (pl. XXVII, *a* and fig. 10, 18).

8. Part of similar base ring from a larger bowl. The strip is covered with a continuous band of guilloche ornament (fig. 10, 15).

9. Bronze chain. Ten links attached to a ring. The links average 1·8 in. in length. Each link is a loop of metal, the ends forming a double loop through which the centre of the succeeding link is threaded. The links hang from a heavy bronze ring. A second ring of the same type is attached to a small ring with a heavy tang for fastening to a metal plate by an iron rivet of which the traces remain. The three chains by which hanging bowls were supported were gathered together in two ways, by a ring or by attachment to a small horizontal plate which hung from a single ring. The former seems to have been more usual. The second method is indicated by the small ring attached to the chain from Whitby (pl. XXVII, *b*).

10. Gilt bronze roundel with smooth back for soldering. In relief a cross with a circle at the centre and semicircles at the ends of the arms. In each spandril two spirals, springing from a stem, and a voided pellet above. Diameter, 1·1 in. (fig. 10, 14).

11. Curved bronze rod of circular section. One end is finished as an animal's head; the other broken. Probably the top of a scutcheon (fig. 10, 12).

Book covers:

Liturgical books sumptuously bound and ornamented with gold, silver, and precious stones came into use as soon as the Church acquired sufficient wealth, and though the practice was at times frowned upon,[1] it continued to flourish, as is shown by survivals such as the Gospels of Theodolinda (*c.* 600) preserved in the Treasury at Monza.[2] Books ornamented in this manner were included in the objects possessed by the Saxon church.[3] The work was carried out in the

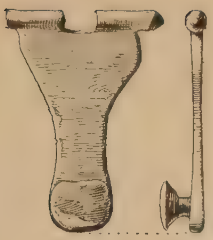
[1] e.g. St. Jerome, *Opera*, Epistola XXII, vol. i, 117: 'Aurum liquescit in literis, gemmis codices vestiuntur et nudus ante foras eorum Christus moritur.'

[2] Venturi, *Storia dell'Arte italiana*, ii, 9, and fig. 78.

[3] e.g. *Vita S. Wilfridi*, cap. XVII, in *Historians of the Church of York*, Rolls Series, i, 27.

Fig. 10. Fragments of hanging bowls, shrines etc. ($\frac{1}{1}$), except 6 and 9 ($\frac{1}{2}$)

1 = 30. 2 = 24. 3 = 27. 4 = 25. 5 = 21. 6 = 31. 7 = 20. 8 = 15. 9 = 1. 10 = 6
11 = 4. 12 = 11. 13 = 14. 14 = 10. 15 = 8. 16 = 19. 17 = 17. 18 = 7. 19 = 26
20 = 18. 21 = 16. 22 = 16. 23 = 22. 24 = 23. 25 = 29. 26 = 28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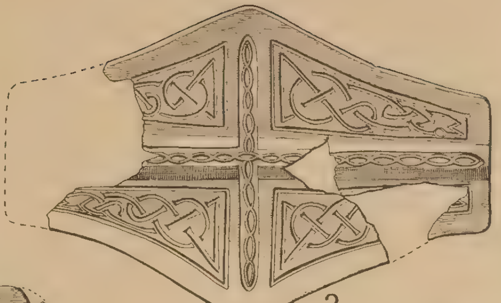
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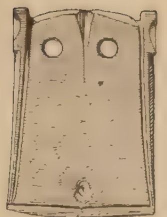
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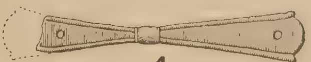
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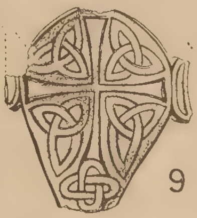
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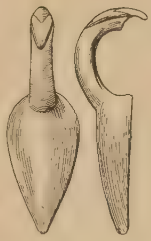
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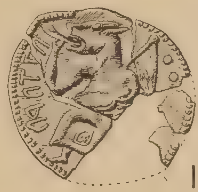
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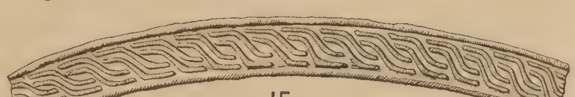
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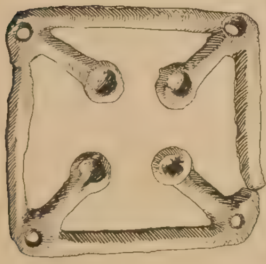
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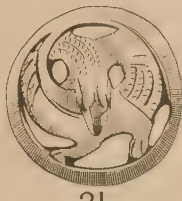
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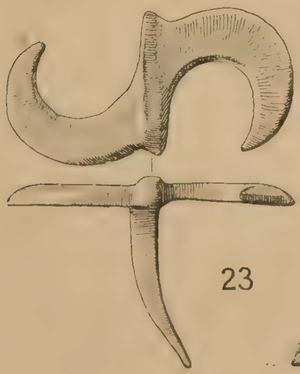
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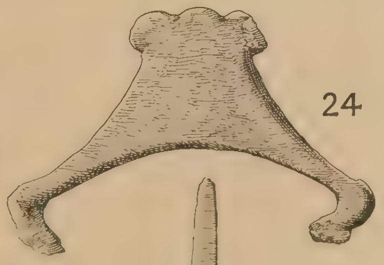
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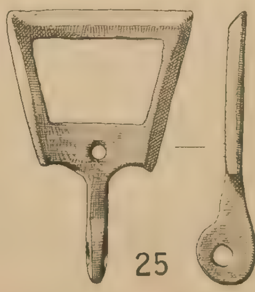
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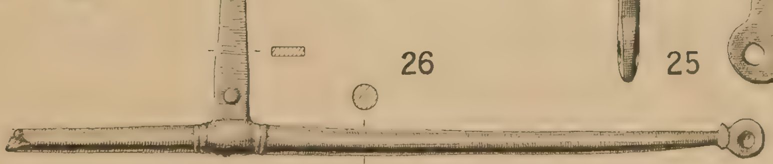
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monasteries,[1] and the description in the old English Riddles of the Exeter Book (fol. 107*a*) show that examples must have been widely known. The custom of enclosing the book in a special shrine appears to be a later development, Irish rather than Saxon. Though the passage already cited from the Life of St. Wilfrid might be interpreted in this way, the first certain reference is to the shrine of the Book of Durrow which was made for Flann king of Ireland between 877 and 911,[2] and the surviving examples such as the Soiscel Molaise[3] are even later. Not only the three plaques described here, but also some of the fragmentary mountings of metal (nos. 17–20) and glass (nos. 33–4) may have belonged to book covers.

12. Gilt bronze plaque. The outermost zone consists of eight conjoined lobes which spring from the solid centre and are divided by triangular piercings. The centre is divided into two zones by triple bands. Similar bands enclose the outer lobes and are continued inwards, dividing the central zone into small fields alternately three- and four-sided. In four cases these bands are finished as beasts' heads. The inner zone and the fields forming the two zones are filled with interlaced patterns formed by cutting away the background in a manner resembling chip carving. Five holes, one in the centre and one in each of two pairs of opposed lobes indicate the position of the nails which fixed this plaque to the wooden cover of the book. The technique is common in Irish and Saxon metal work (e.g. the Gausel find: Mahr, *Christian Art in Ancient Ireland*, pl. 34). Similar plaques now form the centre of the principal faces of the eleventh-century shrine of the Stowe Missal (*ibid.*, pls. 65–6). They appear to be of older workmanship than the surrounding plates and may well have belonged to the cover of the original book (*c.* 800) and have been transferred to the case when it was enshrined. Diameter of the centre, 2·65 in.; across the lobes, 4·1 in. The plaque is bent, broken, and imperfect (pl. XXVI, *b*).

Similar plaque. The dimensions and certain details of the design vary slightly, but it was certainly intended for the other side of the same book.

13. A copper plaque of similar design but rougher workmanship. The beasts' heads have become triangular patches with formless incised designs at the ends of the bands enclosing the lobes, and the interlacing in the fields is carelessly executed. The four outer holes are set within the central zone, and two of them retain the heads of the iron nails. Diameter of the centre, 2·1 in.; across the lobes, 3·4 in. (pl. XXVI, *a*).

A ring of gilt filigree with fragments of gilt plating adhering to the back. This is the normal type of setting for pearls and other small stones.

Miscellaneous mountings:

In addition to those pieces of hanging bowls and book covers already described a large number of ornamented bronze fragments were discovered. These clearly form part of book covers, shrines, or other precious objects belonging to the monastery, though it is impossible to indicate their exact use. Similar fragments are known from various sources in Ireland and from Scandinavia, where they represent loot brought back by Viking raiders. Many of the parallels which could be quoted for the form of the fragments are Irish, and some belong to a later date; but Irish work is in many respects conservative and none of the Whitby fragments exhibits features which are characteristically Irish. It may therefore be concluded that all are Northumbrian, and in the absence of any features pointing to Viking origin or influence there is no reason to dissociate any of them from the other finds belonging to the Saxon monastery. Two glass settings are included under this heading.

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[1] e.g. the covers of the Lindisfarne Gospels made by Billfrith the anchorite: E. G. Millar, *The Lindisfarne Gospels*, p. 3.

[2] Stokes, *Early Christian Art in Ireland*, p. 77.

[3] Mahr, *Christian Art in Ireland*, i, pls. 57–8.

14. Thin disc of silvered copper of bracteate character with embossed ornament. The pearled border is interrupted at the top indicating the position of a folded-over strip of metal by which the disc was attached to a chain. Hybrid seated figure with horned beast's head, human body and right arm, and human foot projecting below the drapery covering the lower part of the body. Behind the shoulder is a detail resembling an extended wing. The right hand holds a drinking horn, the tip of which is applied to the mouth. In front of the figure are six forms imitating letters or runes. They cannot be read, and were probably a meaningless imitation of a classical original. Other instances of hybrid forms (e.g. on a scabbard from Gutenstein: *Altertümer unserer heidnischen Vorzeit*, iv, pl. 29) might be quoted, but these spawn of a decaying Teutonic heathendom are generally too blurred and too ill-executed to enable the representations to be identified (cf. the passages cited by Plummer, *Bedae Opera Historica*, ii, 266, for the continued use of amulets) (fig. 10, 13).

15. Silver disc with niello ornament and a pearled border. In field a lumpy beast with small back-turned head biting its hind foot. The heavy forepart of the body foreshadows the distortions of the Trewhiddle style, but a closer parallel is afforded by the ring found in the Reno near Bologna (Kendrick and Hawkes, *Archaeology in England and Wales*, 1914-31, p. 333). Beasts of this type have a Merovingian origin, and a rather earlier stage is represented by those in certain manuscripts of the Canterbury School (e.g. British Museum Royal I, E VI, fol 4*a* = Zimmermann, *Vorkarolingische Miniaturen*, pl. 290, last quarter of eighth century) so that our roundel may be attributed to the first half of the ninth century (pl. XXVII, *d* and fig. 10, 8).

16. Domed gilt nail head. The pierced dome is treated as a convoluted ribbon beast biting its back. The head of the beast is in relief. The body has alternate zones plain and incised with a scalloped pattern imitating scales. The Saxons, to judge from the remaining examples, were as fond of rivets with large projecting heads as the Irish who placed purely decorative domed swellings on their metal work and even imitated them on stone crosses. The lizard-like creature reappears on the Brunswick casket (Kendrick, *Anglo-Saxon Art*, pl. LXX), but the Whitby beast with its convoluted body and naturalistic head suggests an earlier stage comparable to the whippet of the Lindisfarne Gospels (pl. XXIX, *c* and fig. 10, 21, 22).

17. Thick narrow strip of white metal with nail holes for attachment to a wooden

backing. The strip has a debased egg-and-tongue pattern in moulded relief. This motive suggests Carolingian influence, and the strip probably belongs to the later period of the monastery. The strip is intended to form the edge of a flat surface and hold the larger plates in place (e.g. the book-binding in the National Museum of Dublin in Stokes, *op. cit.*, p. 95, fig. 46) and the strips on the Shannon Shrine (Mahr, *Christian Art in Ireland,* pl. 17) (pl. XXVII, *a* and fig. 10, 17).

18. Fragment of similar strip of white metal with running vine scroll. The free spreading character of the design may be compared with the plant motives in the angle of the silver plate of St. Cuthbert's altar (Baldwin Brown, *Arts in Early England,* vi, pl. III) (fig. 10, 20).

19. Circular terminal of a bronze cross with three nail holes. The surface of the terminal is treated as a cross placed asymmetrically within a plain border and with triquetra knots between the arms. The use of such a cross is illustrated by the back of the Corp Naomh (Mahr, *op. cit.*, pl. 69; cf. pls. 31, 33, 35 for similar fragments) (pl. XXVII, *a* and fig. 10, 16).

20. Fragment of bronze sheathing with irregular interlace. The design may be compared with eighth-century manuscripts such as Turin O. IV. 20 (Zimmermann, *Vorkarolingische Miniaturen,* pl. 198) (pl. XXVII, *a* and fig. 10, 7).

21. Strip of thin bronze sheathing with beaded edges and beaded circles in the centre (fig. 10, 5).

22. Bronze nail with heavy square shaft nearly 1 in. long. The S-shaped head is finished as two lion's claws. Part of a large shrine or box and designed to hold metal plates in place (fig. 10, 23).

23. Bronze drop handle with lobed end. Probably from a bowl of the standing type like that from Kingstone grave 205 (*Antiquity,* vi, 174, fig. 8) (fig. 10, 24).

24. Thin bronze plate, bent and broken. A plaited cross divides the surface into four fields which are filled with loosely drawn interlaces of the type shown on no. 20. The whole design is enclosed by a broad band of plain metal. These plates were used to fill in the fields left between the principal members of book covers and shrines. Those heavier strips of metal overlapped the lighter plates and held them in position against the wooden backing. An elaborate example of this type of construction is the Soisceal Molaise (Mahr, *Christian Art in Ancient Ireland,* pl. 57) (pl. XXVII, *a* and fig. 10, 2).

25. Strap-like mounting with transverse moulding marking the tapered waist and a nail hole in the centre of each end. The longer edges are marked by incised lines (fig. 10, 4).

26. Pierced bronze square with rounded angles each pierced with a nail hole. From the angles arms project inward towards the centre, each ending in a small circular swelling with a hollow setting for precious stones or enamels which are now lost (fig. 10, 19).

27. Thick bronze plate with two large nail holes near one end. The other three sides are outlined by a deep incision. At the pierced end the borders of the adjacent sides project as ornamental knobs (fig. 10, 3).

28. Circular rod imperfect at one end. The unbroken end has a small flat swelling with a hollow for enamel. A rough projection of rectangular section springs from a transverse moulding. This was apparently intended for fixing the bronze rod. Perhaps

the ridge piece of a gabled shrine (cf. the more elaborate example from Roscommon; Mahr, *Christian Art in Ancient Ireland*, pl. XVIII, 7) (fig. 10, 26).

29. Bronze hinge plate. A heavy single loop projects from a tapering plate with a hollow centre. The ornamental fastening strip would have been secured over the edges of this plate which was reinforced by a nail opposite the projection for the hinge (fig. 10, 25).

30. Bronze hinge plate. The heavy bronze rivet which held the plate in position is still attached (fig. 10, 1).

31. Thin silver cross with a bronze backing. The arms of the cross meet at the tips, the whole forming a disc $\frac{3}{4}$ in. in diameter. It probably formed part of the ornament sewn on to a woven hanging (fig. 10, 6).

32. Small figure of a bird with long square foot. This formed part of the ornament of a bowl or shrine (pl. XXVIII, *a*).

33. Oval setting of fine translucent green glass with bevelled edges. Dimensions, 1·25 in. by 1 in. Bust of a youth, three-quarters left, with curly hair falling to shoulders. Mantle fastened on left shoulder and spread over right shoulder, covering arm to elbow. In right hand a palm branch, in left small uncertain object. A bubble in the glass would spoil the appearance if it were mounted *en clair*, but this would not affect its use as a setting in a book cover or shrine. The use of coloured glass and pastes to imitate gems was characteristic of the Merovingian age when the art of cutting precious stones was no longer practised. This example from Whitby is likely to be of continental, probably Frankish origin. It is imitated from a Roman original, probably representing an emperor, and may be compared with the series set in early shrines and book covers (e.g. Cividale, and St. Maurice d'Agaune in *Proc. Soc. Antiq.*, xxxi, 228). The pastes of this imitative series retain much of the grace of the classical originals and contrast sharply with the purely barbaric conception of the paste heads set in the approximately contemporary Tara brooch (Dalton, *British Museum Catalogue of Post-Classical Gems*, p. xxi, fig. 4) (pl. XXVIII, *b*).

34. Flat plaque of opaque blue glass. Dimensions, 0·8 in. by 0·75 in. The plaque is slightly tapered in one direction. It has bevelled edges and the surface is decorated with an inlaid gold design of two interlaced loops set in a frame. The tapering outline suggests that the plaque was set in the foot of a chalice or the rim of a bowl. Similar settings decorate the foot of the eighth-century Ardagh chalice (Mahr, *Christian Art in Ancient Ireland*, pl. 52) where they are of plain blue glass backed by rusticated silver plates. They were also used for the decoration of brooches, shrines, and other objects (pl. XXIX, *d* and fig. 22, 2).

Metal Tags:

The twelve metal tags found were all of the same type. The butt end is split with one or two rivet holes to fasten the metal to the fabric. The split butt is lightly and delicately fashioned and would not stand any sudden strain, nor would the opening be wide enough to take the end of a leather strap. It would therefore seem that these objects were designed to take a silk ribbon or some such delicate fabric. Tags of this type are not found in pagan graves and very few have been discovered on habitation sites. They occur in Late Saxon hoards such as Trewhiddle (deposited *c.* 875, *British Museum Guide, Anglo-Saxon*, p. 100, fig. 120), and Cuerdale (deposited *c.* 925, *ibid.*, p. 108, fig. 132). The occurrence in these collections, which included ecclesiastical loot, and in considerable numbers at Whitby, suggest that they should be dissociated from the normal type of strap end which forms part of the costume. It is possible that they formed the ends of silk ribbons used as book markers both to indicate the place and to keep the leaves of the manuscript open. Literary evidence of the use of such book markers is known at the end of the middle ages (Ducange, *Glossarium*, s.v. *pipetus* and *signale* (3), and Godefroy, *Dictionnaire de l'ancienne langue française*, s.v. *pipe* (2) and *segnet*). The *pipetus* was a strip of metal which ran across the page and from which the *signale* depended.

35. Base silver. Split butt with single domed rivet. The tip is finished as a stylized beast's head in relief, the recurved and pointed ears covering the base of the field. The sides have a low cabled border above which the flat field rises. This field is filled with niello representing a crouching animal, contorted but still naturalistic. The drawing may be compared with the 'whippet' of the Lindisfarne Gospels (e.g. folio 12*a* = Zimmermann, pl. 107; *c.* 700) (pl. XXVII, *d* and fig. 11, 2).

36. Bronze. Split butt with two rivet holes. The top is broken. A much rubbed beast's head in low relief forms the tip. The field is occupied by a sitting beast with its head turned backward and a large upright bushy tail. Both tail and paws have a foliated finish. The lumpy form and the foliated finish suggest a comparison with the beasts of South English manuscripts of *c.* 800 (e.g. the bushy tails of the Cuthbercht Gospels; Zimmermann, pl. 304 *c*), but neither these nor the Merovingian group from which they are derived afford a really close parallel. In stone carving a comparison may be made with the eighth-century crosses like Bishop Auckland (Clapham, *English Romanesque Architecture*, pl. 21) where the characteristic backward-turning beast has already made its appearance. This motive survived in a degenerate form in Wessex until after 900, but the drawing of this tag has nothing in common with the deformed beasts of Ramsbury (Clapham, *ut supra*, pl. 54). The date indicated is, therefore, *c.* 800 (pl. XXVIII, *c* and fig. 11, 6).

37. Type as last but more coarsely executed (fig. 11, 5).

38. Bronze. Split butt. Two rivets. Surface much corroded. The terminal head and the crouching beasts in the field are coarsely executed examples of the design on no. 35. A pendant palmette springs between the rivets and spreads out to cover the top of the field. The palmette springing from between the rivets is an interesting feature which occurs on several of the strap ends from Whitby, and also on many others, including a silver example found in London which should be dated to the eighth century by the style of its crouching and naturalistic beast (*V.C.H. London*, i, 164) (pl. XXVIII, *c* and fig. 11, 10).

39. Type as no. 36. The beast in the field has been distorted in a twisted and unnatural form in an attempt to use it as a decorative filling for the space available. This is an approach to the style used at Trewhiddle, though the grotesque angular bodies

of that type have not yet been achieved. It may be attributed to the early ninth century (pl. xxviii, *c* and fig. 11, 1).

40. Same type. The moulded terminal has lost its zoomorphic form and the beast in the field has become a meaningless complex of irregular linear ornament (pl. xxviii, *c* and fig. 11, 14).

41. Same type. The field is filled with a formal linear design (pl. xxviii, *c* and fig. 11, 9).

42. Same type. The top is broken, but the base of the palmette remains. The modelled head at the tip is still recognizable. The beast in the field is bent back and contorted (pl. xxviii, *c* and fig. 11, 12).

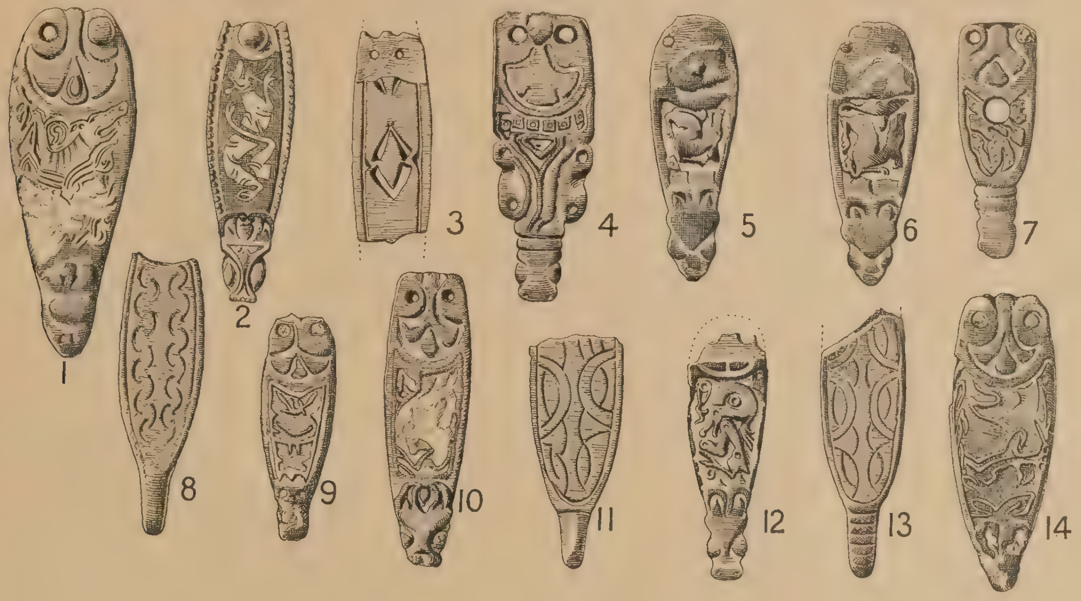

Fig. 11. Metal tags ($\frac{1}{1}$)

1 = 39. 2 = 35. 3 = 48. 4 = 44. 5 = 37. 6 = 36. 7 = 43. 8 = 47. 9 = 41
10 = 38. 11 = 46. 12 = 42. 13 = 45. 14 = 40

43. Same type. Design much debased. The pendant palmette is rudely executed. The beast's head at the tip has degenerated into transverse mouldings. The beast is a rough example of the crouching dog in no. 2. The spots on its body are imitated from the painted decorations of the animals in Merovingian manuscripts. A date *c.* 800 seems probable. The hole through the centre of the tab cuts the design and is unlikely to be original (pl. xxviii, *c* and fig. 11, 7).

44. Split butt. Two rivets. The pendant palmette connects this with the series already described, but the whole tag is here treated as a beast's head, the moulded tip forming the muzzle above which two heavy curves mark the eye sockets while on top square ornaments represent a diadem lying on the muzzle. This conception is shown fully developed on the tags from Seavington (*British Museum Guide, Anglo-Saxon*, fig. 131, *c.* 880), but the Whitby example is typologically earlier and may be dated to early ninth century (pl. xxviii, *c* and fig. 11, 4).

45. Bronze, split butt. Top imperfect. Tip moulded. In field a design of semicircles (pl. XXVIII, *c* and fig. 11, 13).

46. As last, top imperfect. Design carelessly executed (fig. 11, 11).

47. As last. Plain tip. In field opposed crescents (fig. 11, 8).

48. Imperfect at both ends. Two rivets. In field a pair of deeply cut chevrons and part of a second pair at top (fig. 11, 3).

Objects of Personal Use or Adornment

The objects discovered include a large series of articles of personal use or adornment. The great majority of these are of types normally found in women's graves and no object of this class is of a character which can be ascribed to a purely male use. Among other articles of dress found a large number of fragments of leather shoes or sandals may be mentioned. The best preserved are a pair of leather soles originally about 8·5 in. long. The edge of the leather is turned over, the fold being pierced with holes for sewing to the upper. (For beads, see p. 73. For small pendant crosses of jet, see p. 69.)

Rings:

49. Thin bronze hoop of rectangular section, part missing. Circular bezel divided saltirewise into four triangular spaces filled alternately with red and yellow enamel (fig. 12, 14).

50. Bronze hoop, largely missing. Flat bronze bezel, long oval in shape. The surface is filled with a design of two beasts in niello technique. The unnatural arrangement of the beasts designed to fill the whole field may be compared with the late tags (nos. 42–3). It marks an approach to the artistic outlook which formed the Trewhiddle style, though the exaggerated distortions characteristic of that style are not yet fully evolved (fig. 12, 5).

A plain bronze hoop of circular section was also found. The bezel had a small stone, now lost.

Brooches:

51. Safety pin of stout bronze wire with large spring of two coils. The end of the wire is bent over to form the catch. Structurally this is the simplest form of brooch known and it may be compared with continental examples of the Bronze Age. But a simple form such as this may be revived at any period. Baldwin Brown illustrates an example but little elaborated from a pagan Saxon grave at Kingston (*Arts in Early England*, iii, 249). Length, 1·4 in. (fig. 12, 4).

52. Pin and one coil of a similar but larger brooch. Length, 2·75 in. (fig. 12, 12).

53. Penannular brooch of bronze wire with spirally coiled ends in the same plane as the ring. The short roughly made pin of flat section is probably a replacement. The simple penannular brooch was taken over by the Saxons from the provincial Roman industrial art. It tended to be displaced by the annular form (fig. 12, 17).

54. Penannular brooch of bronze wire. The ends are flattened and turned over to form rings at right angles to the plane of the brooch. The surface of the brooch is ornamented with an incised zigzag line (fig. 12, 13).

55. Annular bronze brooch. The ring is broad in proportion to the size and a slot is cut to form a hinge for the pin. The slightly domed surface of the ring is engraved with a zigzag line and pellets. In form this brooch belongs to the class of quoit fibulae found in pagan Saxon graves (e.g. from Bifrons: Baldwin Brown, *Arts in Early England*, iii, pl. XXXVI, 8) (fig. 12, 15).

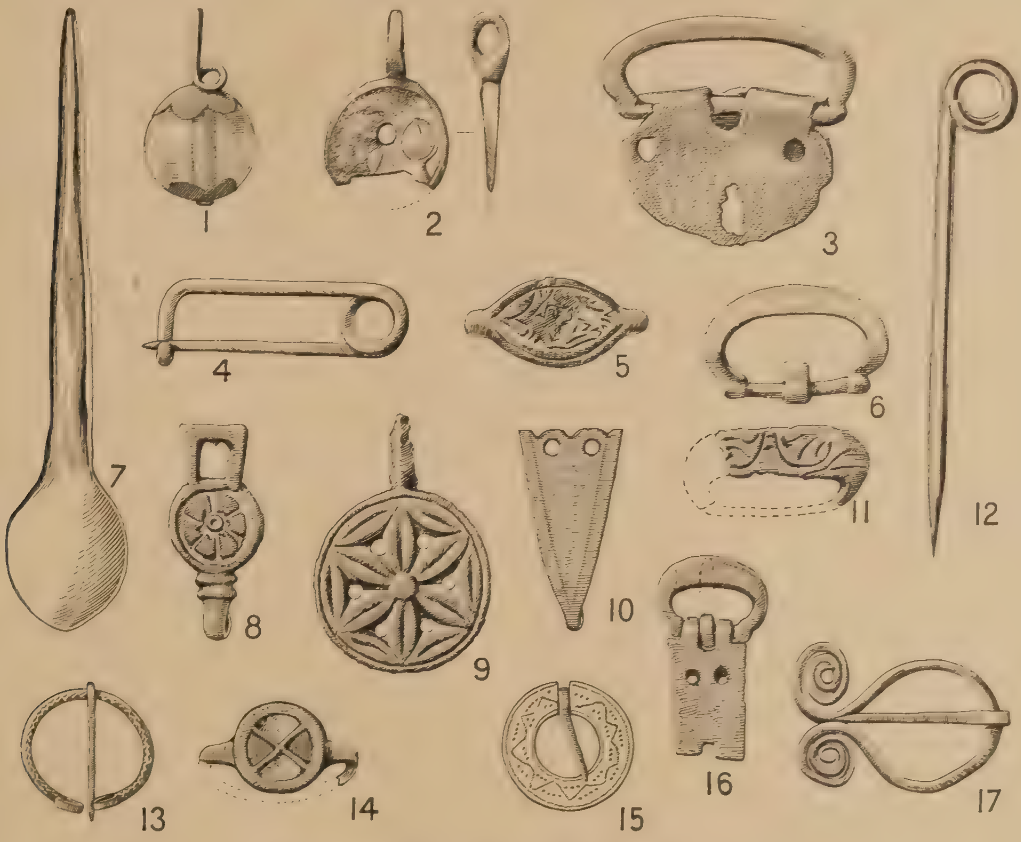

Fig. 12. Objects of personal use or ornament (1/1)

1 = 64. 2 = 65. 3 = 59. 4 = 51. 5 = 50. 6 = 56. 7 = 63. 8 = 61. 9 = 60
10 = 62. 11 = 57. 12 = 52. 13 = 54. 14 = 49. 15 = 55. 16 = 58. 17 = 53

A small annular bronze brooch, 4 in. in diameter, was also found. The ring is circular in section with transverse ribs.

Buckles:

56. High oval bow with pounced ornament in chevron design and traces of gilding. Broad flat tongue, point broken (fig. 12, 6).

57. Similar form, but more roughly made. Roughly incised ornament on bow. Back and tongue missing (fig. 12, 11).

58. Small flat bow with flat tongue. The strip of metal on which it hinged is still attached. It is pierced with two holes for attaching to a leather strap (fig. 12, 16).

59. Large flat bow. Tongue missing. The shield-shaped plate is folded over the shank and runs back holding the leather between the double thickness of metal (fig. 12, 3).

Several other buckles were found, but all are variants of the types illustrated.

Hooks:

Several hooks or fasteners were found. They vary in size and in method of attachment. Their use is uncertain. None belong to the types of wrist hooks or clasps found in Pagan Saxon graves, nor do they closely resemble the objects generally described as book clasps.

60. Circular disc with 'mariegold' pattern. Between each of the six petals a hole for attachment, probably to a wooden base. Hook much corroded (pl. xxvii, *a* and fig. 12, 9).

61. Central disc with rudely modelled six-petalled flower. On one side a heavy hook springing from a double moulding. On the other a pierced rectangular projection, probably for a leather strap (fig. 12, 8).

62. Thin wedge-shaped sheet of metal with slight hook at the point. The roughly scalloped base is pierced with two holes for sewing to silk or some other light stuff. Two other examples were found, one of smaller size (fig. 12, 10).

'Chatelaines':

No 'girdle hanger' of the type often found in pagan graves was found at Whitby, but a number of objects belong to types which were normally carried in this manner. Among these may be noted the domestic key (no. 88), toilet implements, an ornamental pendant, and possibly the spoon and the crystal pendant. Part of a chain of twisted wire, like those found on pagan Saxon chatelaines, was also found (cf. Baldwin Brown, *Arts in Early England*, pl. xci).

63. Rude bronze spoon. Flat oval bowl roughly beaten out of a strip of bronze metal. The handle is formed out of the same strip, the edges being turned in so that it tapers gradually to a point. The form does not suggest that this spoon was intended for use. Spoons formed part of the liturgical furniture of the early Church, but so rough a specimen formed of a base metal is unlikely to have served this purpose. In pagan Saxon cemeteries they occur not infrequently in women's graves and seem to have an ornamental rather than a utilitarian purpose. Those with perforated bowls have been connected with spheres of rock crystal. They were worn suspended from the girdle and have been associated with magic. The occurrence of this spoon and of a crystal pendant (no. 64), though the two are not associated at Whitby, points to a continuance of these beliefs into the Christian period. Length, overall, 3·5 in.; of bowl, 0·9 in. (fig. 12, 7).

64. Pendant sphere of rock crystal, 0·6 in. in diameter. The sphere is pierced by a bronze wire, the ends of the hole being masked by thin plates of the same metal with scalloped edges. A single knot above the crystal prevents this running up the wire of

which 0·5 in. remains. This was probably designed to hang at a woman's girdle (see above) (fig. 12, 1).

65. Circular bronze pendant gilt with design in red enamel. The pattern is corroded and indistinct. A round hole in the centre and a slot below are not related to the design and are probably secondary. The base is broken and missing. In many Frankish graves coins or ornamental plaques of metal and bone were found at the end of the chains of the girdle hanger (Lindenschmidt, *Altertümer unserer heidnischen Vorzeit*, i, Heft IV, pl. VII) (fig. 12, 2).

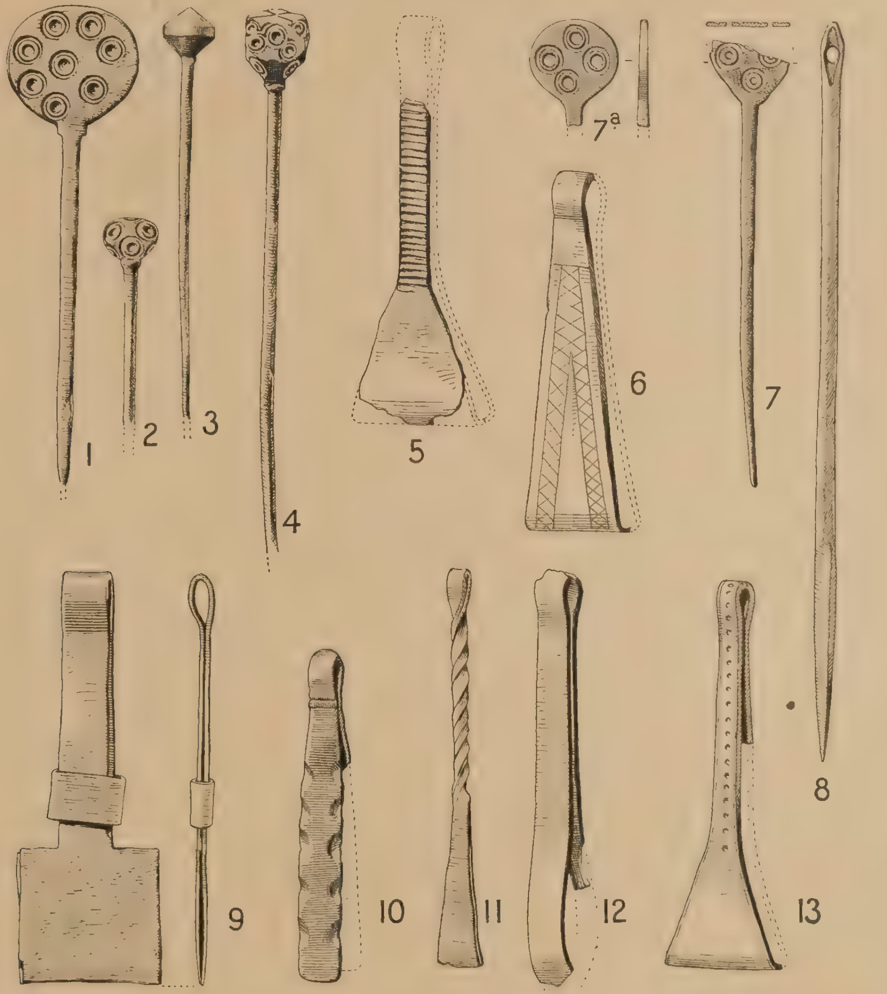

Fig. 13. Pins and tweezers ($\frac{1}{1}$)

4 = 79. 5 = 72. 6 = 74. 8 = 93. 9 = 75. 10 = 70. 11 = 71. 12 = 69. 13 – 73

Toilet Articles:

Many small toilet articles were found and examples of each type are illustrated. These usually follow Roman models, though development may be noted, especially in the tweezers. The absence of the usual nail cleaner with the split end (e.g. *British Museum Guide*, *Anglo-Saxon*, p. 46, fig. 47) may be noted. Narrow long-handled spoons were used for extracting dyes or cosmetics from their containers and the tweezers for removing superfluous hairs. The iron shears (no. 96) may have served domestic as well as industrial purposes as scissors were unknown. Toilet articles other than tweezers are rare in pagan graves, but are found more commonly in Frankish cemeteries, and their use may have spread through Anglian contacts with Gaul in the seventh century.

66. Twisted stem with small deep spoon at one end and flat pointed nail cleaner at other. Length, 2·9 in. (fig. 14).

67. Flat stem with oval swelling in centre. Flat spoon at one end—probably nail cleaner (now missing) at other. Length, 2·7 in. (fig. 14).

68. Pointed ear pick with small flat spoon at other end. Length, 2·25 in. (fig. 14).

Tweezers :

Five types of tweezers were found. Several examples had delicate engraved ornament on the surface of the metal.

Type I. Flat wire formed like a hair-pin with the end slightly expanded and not turned inwards. This is the simplest form and should perhaps be classed with the following type. Only one specimen.

69. Type II. Flat strip of bronze with a loop at the head. The slightly expanded ends are bent outwards and then brought together forming a slight bow. This is the normal type in pagan Saxon graves (Baldwin Brown, *Arts in Early England*, iv, pl. LXXXVII, 5 and 10). Two other examples in a fragmentary condition were found (fig. 13, 12).

70. Same type. The back of the arms is faceted, a form of decoration often found in pagan examples, where it is taken over from provincial Roman models (*ibid.*, p. 392; cf. pl. LXXXV, 1) (fig. 13, 10).

71. Type III. The two arms of the bronze are twisted tightly together for more than a half of the length. The expanded ends are not incurved at the tip. Two examples were found (fig. 13, 11).

72. Type IV. The ends of the arms are widely expanded and the tips incurved in order to meet edge to edge. The practical advantages of this arrangement are clear. It is already foreshadowed in the more developed examples of type II (cf. no. 69). The outer face of the arms is decorated with a series of transverse incisions. Parts of three examples found. A Frankish parallel from Oberolm is illustrated by Lindenschmidt (*Altertümer unserer heidnischen Vorzeit*, ii, Heft V, 6, 1) (fig. 13, 5).

73. Same type. A row of punctured dots continuing over the loop replaces the transverse incisions. A part of a second example was found (fig. 13, 13).

74. A variant of the same type in which the expansion of the arms is continuous. A band of cross-hatching runs along each side of the metal (fig. 13, 6).

75. Type V. The arms expand into square ends which form the grip. The edges are not incurved. The arms are brought together and the pressure maintained by a flat

loop of metal which slides down the implement as far as the expanded ends. The type is not Saxon, but is known from Frankish and other Continental sites belonging to the Dark Ages (fig. 13, 9).

Pins:

A large number of bronze pins was found. The larger average 3 in. in length, the smallest measures 1·3 in. With three exceptions they belong to three principal types, (I) with a round or oval head (e.g. fig. 13, 2); (II) with a faceted head, often decorated on the principal faces with an incised ring and dot (e.g. fig. 13, 4); (III) with a flat head also decorated with incised ring and dot pattern (e.g. fig. 13, 1). The third type is represented only by very few specimens. The selection illustrated includes examples of every variety. The drawings are in most cases self-explanatory, and only those showing exceptional features require special comment (figs. 13 and 14).

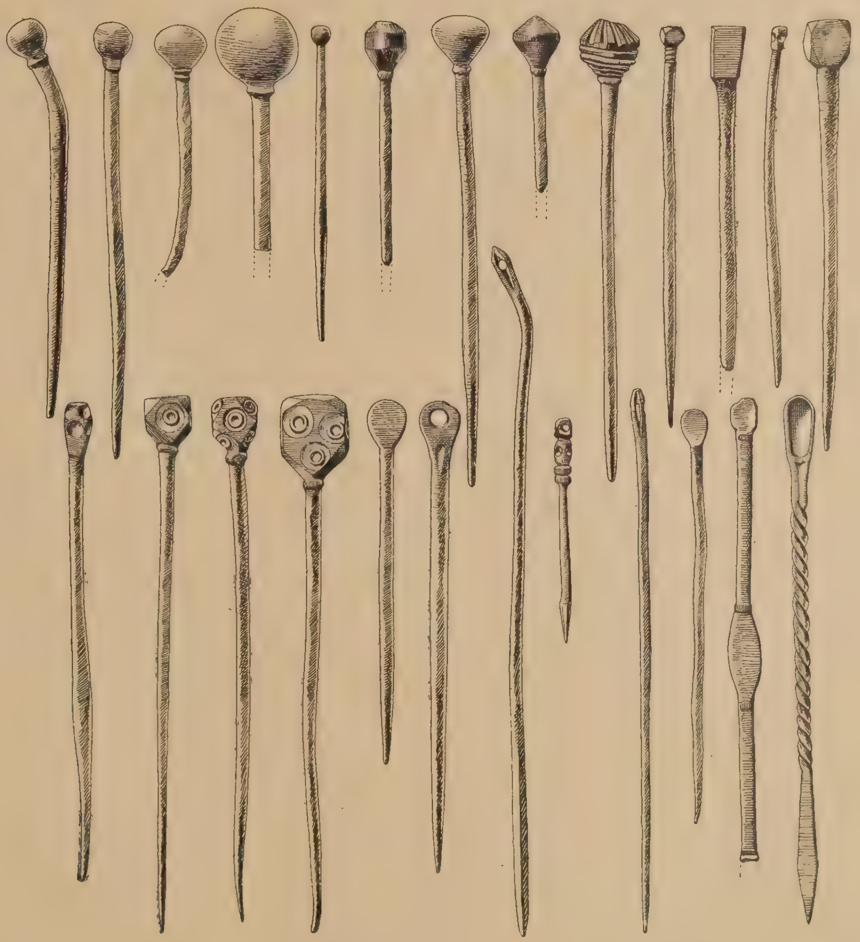

Fig. 14. Pins, etc. ($\frac{1}{1}$)

76. Large pin, 5 in. long. Tapering head with cross-piece at base. The upper part of the stem is treated as a baluster. Pilloy (*Mémoires de la Société académique des Sciences . . . de St. Quentin*, Sér. IV, vi, 467) discusses these 'styliform' pins, of which the longer Gallic examples date from the later Merovingian or Carolingian age. He considers that they were hair-pins, the flat head being used for parting the hair and for the application of pomade. The thinner stem and the absence of intermediate mouldings distinguish this type of pin from the stylus. Two of the earlier pins with small heads, of Merovingian type, were found in the pre-Conquest levels of the cloister at St. Augustine's, Canterbury (*Antiq. Journ.*, xx, 507) (fig. 15, 3).

77. Pin, 2·6 in. long, with flat perforated head (fig. 14).

78. Small pin, 1·3 in. long. The head is pierced in two different directions and the point is hexagonal (fig. 14).

79. A pin, with a triple ring and dot on the two principal faces, a single one on every facet, and an incised cross on the top, is the most elaborate specimen of the type (fig. 13, 4).

Styli:

The stylus (*graphium*) and waxed tablets were among the normal articles carried by the early Benedictine monks.[1] These tablets and styli were used for taking rough notes, memoranda, etc.[2] They are not common on Saxon sites, but two styli were found in the pre-Conquest level below the cloister of St. Augustine's, Canterbury,[3] and an example of the latter is known from Blythburgh.[4] The continued use of the liturgical diptychs which is attested by documents of Carolingian date may also be noted in this connexion.[5]

80. Bronze stylus, 5·5 in. long. The edge of the head and parts of the stem are eaten away by oxidization. The gradually tapering stem is divided into five parts by moulded bands, each part showing a slight entasis. One side of the head is a silver plate engraved with an asymmetrical interlace with pendant ends set in a pearled border (pl. XXVII, *c* and fig. 15, 7).

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[1] *Regula Sci Benedicti*, cap. LV, apud Migne, *Patrologia Latina*, lxvi, 772: 'Et ut hoc vitium peculiare radicitus amputetur dentur ab abbate omnia quae sunt necessaria, id est cuculla, tunica, bracile, cultellus, graphium, acus, mappula, tabulae ut omnis auferatur necessitatis excusatio.' Cf. the contemporary list of personal relics of St. Desiderius, who was murdered in the middle of the seventh century, in the *Passio*, cap. 10, apud *Mon. Germ. Hist.*, *Script. Rer. Meroving.*, vi, 62: 'Vidimus et tabulas ipsius martyris et corneum graphium.' Some were of costly materials (e.g. no. 80, cf. *Epp. St. Bonifacii*, 70, apud *Mon. Germ. Hist.*, *Epist. Aevi Merov. et Carol.*, i, 338, Lul to Abbess Eadburg of Thanet (745/6): 'Parva munuscula tuae venerandae dilectioni transmisi, id est unum graphium argenteum.'

[2] e.g. *Epp. Claudii Laurin. Episcopi*, 2, apud *Mon. Germ. Hist.*, *ut supra*, ii, 595, and Adamnan, *de locis Sanctis prefatio* apud Mabillon, *Acta ord. St. Benedicti*, III, ii, 456: 'Arculfus . . . mihi Adamnano haec omnia . . . diligentius perscrutanti et primo in tabulas describenti . . . dictavit quae nunc in membranis brevi textu scribuntur.'

[3] *Antiq. Journ.*, xx, 506–7. [4] *British Museum Guide, Anglo-Saxon*, p. 112, fig. 138.

[5] Cabrol and Leclerq, *Dictionnaire d'Archéologie chrétienne et de Liturgie*, vol. iv, s.v. *Diptyque*.

81. Same type. Point missing. The spacing of the bands and the smaller head suggest that it was originally about 4·75 in. long. Three divisions of stem, each without entasis, are preserved. One side of the head is ornamented with six large and six small ring and dot designs arranged symmetrically (cf. the disc-headed pins, fig. 13). On the back is a lightly indicated saltire with a single ring and dot at the base (pl. xxvii, *c* and fig. 15, 2).

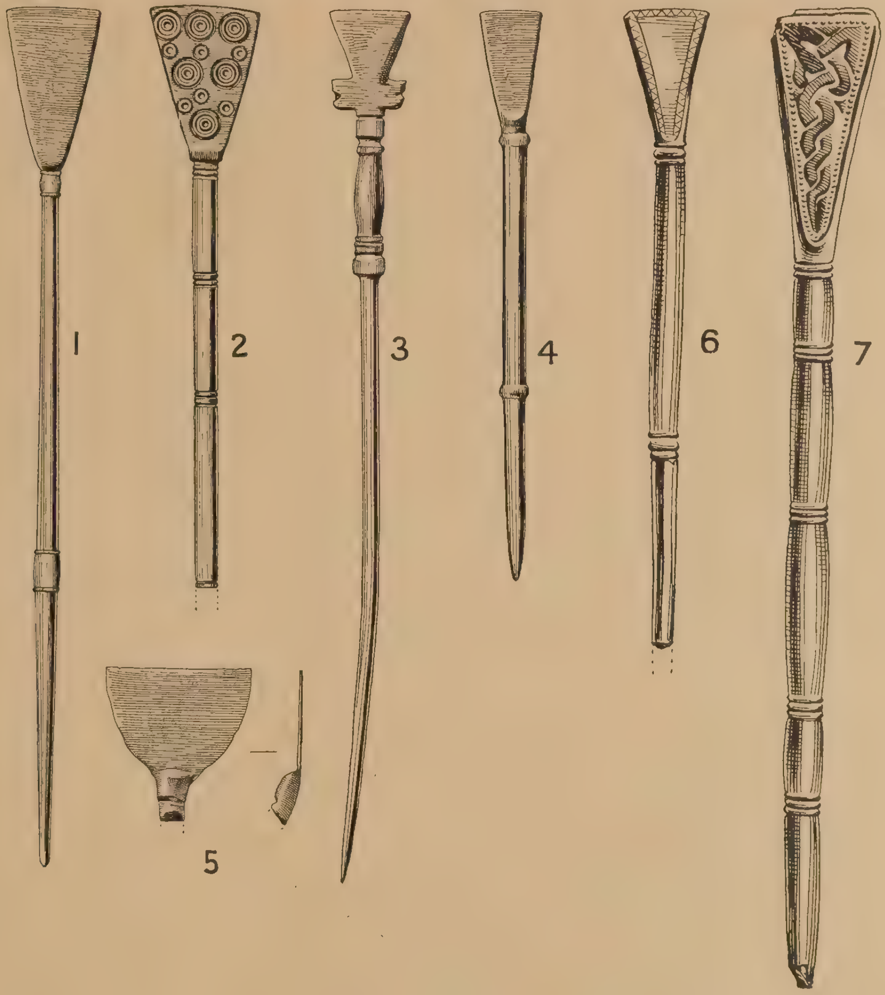

Fig. 15. Styli ($\frac{1}{1}$)
1 = 83. 2 = 81. 3 = 76. 4 = 84. 5 = 85. 6 = 82. 7 = 80

82. Bronze stylus, originally about 4 in. long. Point imperfect. Two divisions on shaft, of which lower is octagonal and tapering towards point. On both sides of the head is a narrow ornamental border enclosing a lightly engraved zigzag line (fig. 15, 6).

83. Same type, 4·8 in. long. Plain head (fig. 15, 1).

84. Similar type, 3·2 in. long. Stem circular throughout. Plain head (fig. 15, 4).

85. Head only, of broad semi-elliptical outline. No ornament (fig. 15, 5).

Miscellaneous Objects of Metal and Stone, etc.

Domestic Objects:

The objects of domestic use include two skillets, keys, and needles.

Skillets:

The two skillets are descendants of the well-known Roman patella, a type developed by the South Italian and later the Gaulish workshops, and exported to every province during the early Empire. Attempts to develop local manufacture occurred under the later Empire.[1] Compared with Roman examples the Whitby vessels are principally distinguished by the lack of effective strengthening of the handle, rim, and base. The result is shown in the two broken handles, one repaired and re-used.

86. Bronze skillet, with rounded bottom and flat handle, originally 8 in. long. This has been broken and the two ends riveted together. The metal is corroded and the bowl worn into holes. The vessel is beaten out of a single sheet of thin bronze. It has a flat rim with a moulding 0·4 in. below. The edges of the flat handle are turned up to form a slight flange which continues for 1 in. on to the rim on each side. Diameter of bowl, 5·2 in.; depth, 2·4 in.; length of handle, 7 in. (fig. 16, 2).

87. Bronze skillet of the same type. The end of the handle and the bottom of the bowl are missing. The structure and the dimensions, so far as they can be studied and restored, are the same as those of the preceding example. Length of handle remaining, 2·9 in. (fig. 16, 1).

Keys:

88. Bronze, 4·2 in. long. Oval ring much worn at upper end. Transverse lines on shaft. Rectangular head with pierced wards. An elaborate example of the normal domestic key found in pagan Saxon graves. The wear on the top of the ring suggests that it hung from the girdle, a position in which similar keys have often been found in women's graves (Baldwin Brown, *Arts in Early England*, iv, 395 sq., pls. LXXXVIII and LXXXIX) (fig. 17, 1).

Several small keys of caskets or possibly shrines were found. All were intended for insertion in a lock and have wards of a simple type.

89. White metal. Flat circular handle enclosing saltire. An incised ring and dot mark the intersection of the arms and their junctions with the rim. End of shaft and wards broken. Part of a similar but heavier key with a plain ring handle was also found (fig. 17, 3).

90. Bronze. Small hanging loop, winged stem, hollow shaft, and small ward (fig. 17, 2).

91. Bronze. Same type, but larger wards partly destroyed by corrosion (fig. 17, 5).

92. Bronze. Circular loop for suspension, moulding at neck, hollow shaft (fig. 17, 4).

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[1] Cf. Radnoti, *Die römischen Bronzegefässe in Pannonien.*

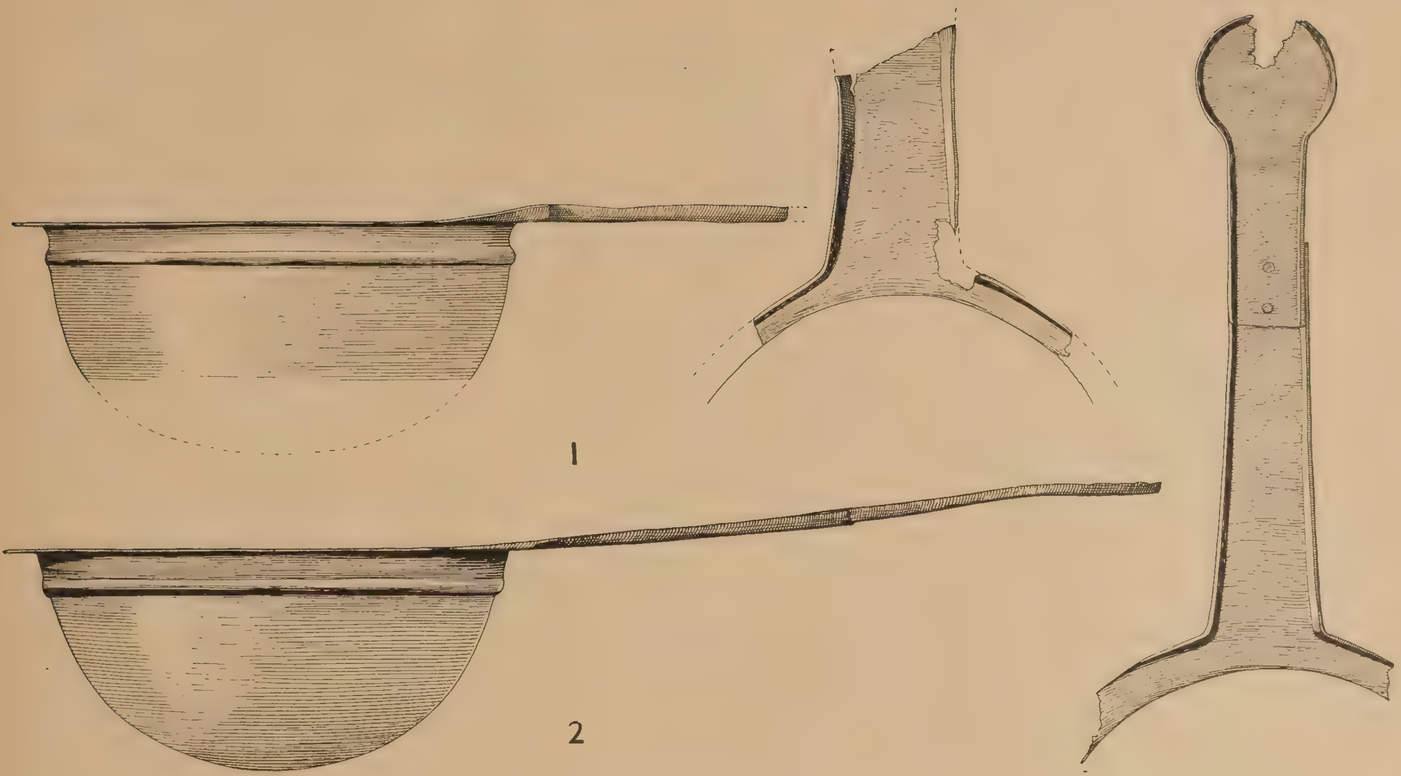


Fig. 16. Skillets, nos. 86 and 87 ($\frac{1}{2}$)

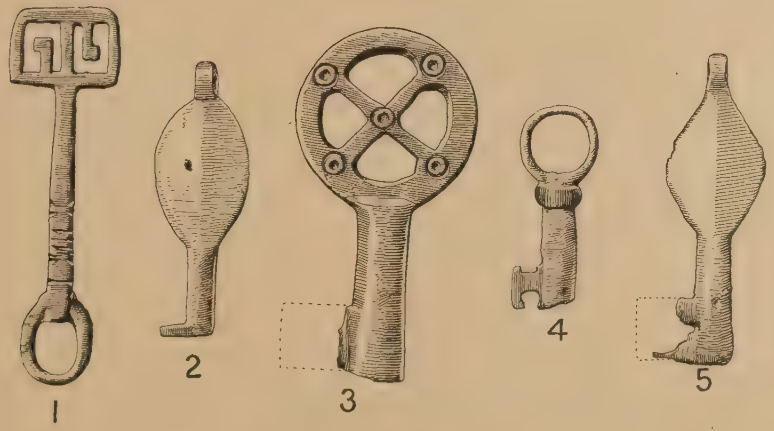


Fig. 17. Keys ($\frac{1}{1}$)
1 = 88. 2 = 90. 3 = 89. 4 = 92. 5 = 91

Needles :

Needles were not common. The majority were formed of bronze wire with a hole drilled in a small sinking at one end. Three are illustrated.

93. Heavy needle, 4·1 in. long. The end near the point is beaten to a triangular section, the rest being left circular. The size and form suggests that it was intended for leather rather than a fabric (fig. 13, 8).

94. Lighter needle, 4 in. long. The same triangular section is visible near the point (fig. 14).

95. Needle 3 in. long. The section is circular throughout (fig. 14).

Industrial Implements :

Except for objects connected with weaving (described on pp. 74 and 83) implements of an industrial character are extremely rare. This is probably explained by the fact that crafts would be carried out by the male members of the community, and that the workshops must be sought elsewhere, probably nearer the area occupied by the monks. Numerous broken fragments afford no real evidence for metal-working in this area as they belong to shrines or other costly objects, and represent scraps lost when these were broken up on the sack of the monastery. A few pieces of slag which suggest bronze-working cannot be certainly associated with the Saxon occupation and may belong to the period of the medieval abbey. The shears and whetstone described under this head are small and may well have been intended for domestic rather than industrial use.

96. Pair of iron shears, now 3·5 in., but originally about 4 in. long. The points are rusted away. The blades occupied about one-half of the length. Similar shears of various sizes from 8 in. downwards are found in pagan Saxon graves (Baldwin Brown, *Arts in Early England*, iv, pl. LXXXVII) (fig. 18, 1).

97. Small whetstone, 2·2 in. long. The material is hard black slate. The stone has a rectangular section and is pierced for suspension. The edges show much wear. This and the following implement suggest personal possessions carried in the girdles (fig. 18, 6).

98. Tapering strip of bronze with a small hole for suspension. The flat end shows much wear. The implement may have been used to smooth the surface of vellum preparatory to writing or after an erasure (fig. 18, 4).

99. Rectangular bar of bronze, tapered at each end. Near the centre of one side is a deep transverse groove. The angles have been pared and are much worn. Use unknown (fig. 18, 3).

Objects of Jet

Jet was not very common. In addition to the objects or fragments illustrated several pieces of unworked jet were found on the site. On one a double loop had been carelessly scratched.

100. Equal-armed square-ended cross. One arm pierced with a small hole for suspension. On the front is a roughly engraved cruciform pattern with concentric circles at

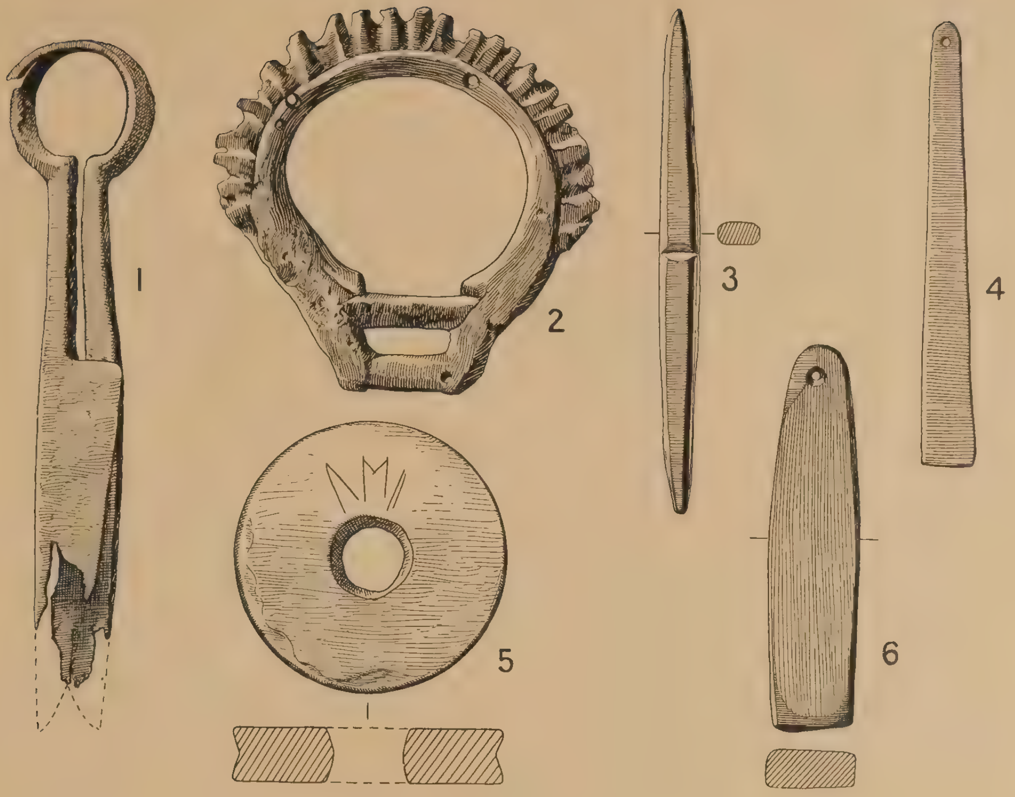


Fig. 18. Small Objects ($\frac{1}{1}$)

1 = 96. 2 = 119. 3 = 99. 4 = 98. 5, see p. 74. 6 = 97

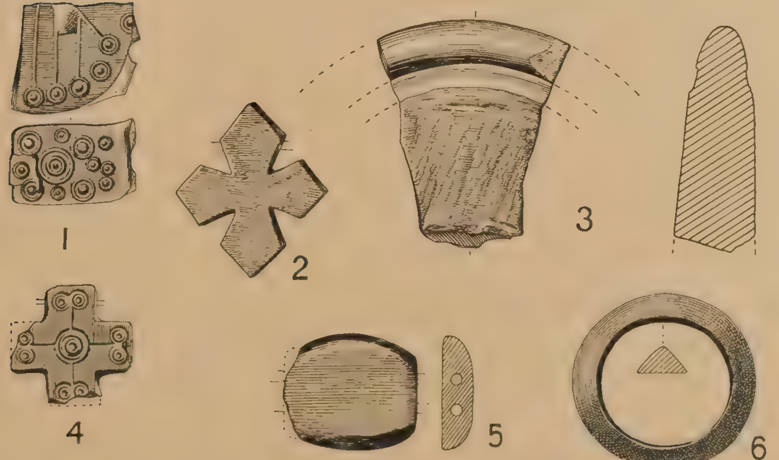


Fig. 19. Objects of Jet ($\frac{1}{1}$)

1 = 102. 2 = 101. 3 = p. 74. 4 = 100. 5 = 104. 6 = 103

the intersection of the arms, and a double ring and dot at each end. The back and edges are plain. The size and the hole for suspension show that this and the cross next described were personal ornaments. They probably formed the centre of or were pendent from a necklace (fig. 19, 4).

101. Unornamented cross with hole for suspension. The expanded arms have bevelled ends (fig. 19, 2).

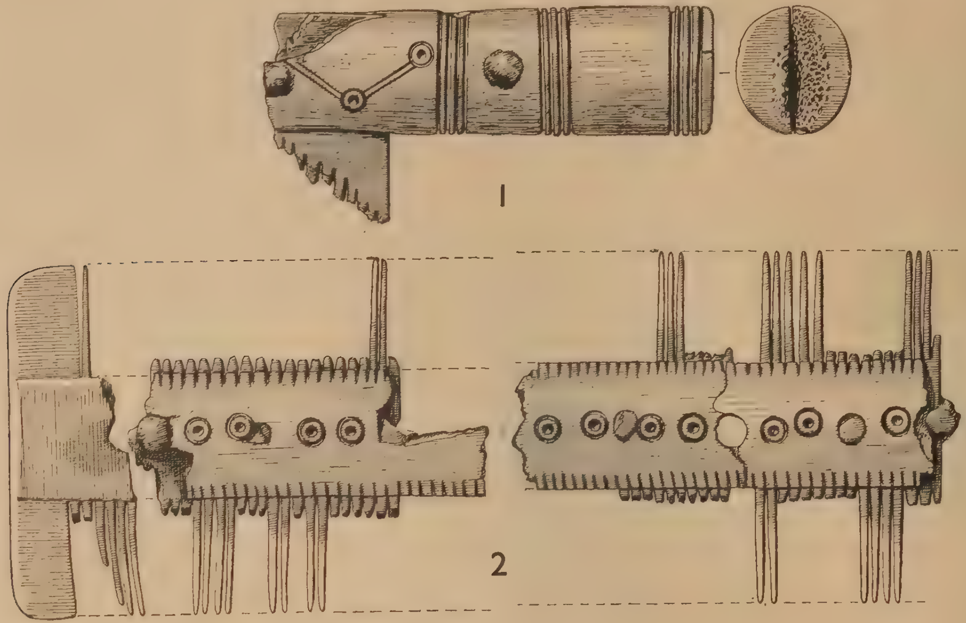


Fig. 20. Bone Combs ($\frac{1}{1}$). 1 = 106. 2 = 105

102. Part of disc, possibly from a cross-head of a larger type. Part of the hole for suspension remains. Both faces and the curved edge are covered with an irregular arrangement of ring and dot and incised lines. The flat edge is unornamented (fig. 19, 1).

103. Ring of triangular section, polished outer face, rough within. Internal diameter, 0·7 in. (fig. 19, 6).

104. Flat oval bead with one convex face. Two longitudinal holes for stringing (fig. 19, 5).

Small Objects of Bone

105. Bone comb. Broken, and length uncertain. The teeth are cut from a strip 2 in. wide, of which the teeth take up between 0·6 and 0·7 in. on either side. The plain central part is fastened with iron rivets to strips of semi-elliptical section. These are decorated with a central line of rings and dots and notched edges. This type is found frequently on Roman sites and in Pagan Saxon graves (fig. 20, 2).

106. Handle of a similar comb. The side plates continue beyond the end of the teeth, where they become thicker and are riveted directly together to form an elliptical handle 1·75 in. long. This handle is decorated with three incised bands. The part of the plates covering the teeth has a double zigzag with each angle marked by a ring and dot.

Handled combs, with teeth on one side only, of which this is probably one, are not common in England. Examples dating from the eighth century to the twelfth are known from the Rhineland, Dorestad, Hedeby and Birka, and from Viking graves in Scandinavia.

107. Stylus. Round shaft and expanded head. Point broken. The moulded bands which are usual in the bronze styli are absent. Length, 3·6 in.

108. Peg with ball-head, necking and six incised lines at top of shaft. A small iron point is inserted at the base of the shaft. Length, 3 in. Possibly a stylus. Cf. Cabrol and Leclerq, *Dictionnaire d'Archéologie chrétienne et de Liturgie*, iv, 1047, fig. 3757.

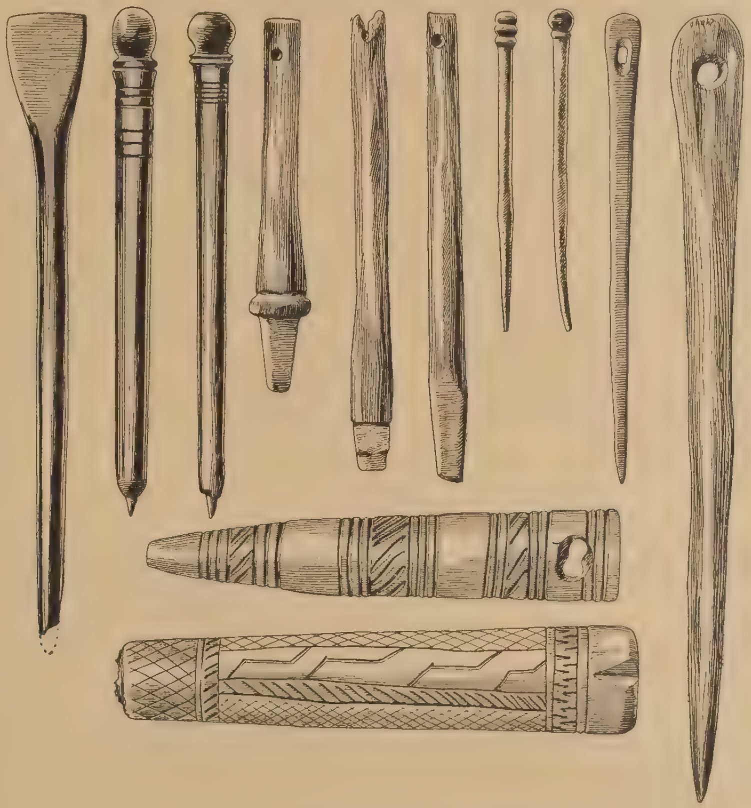


Fig. 21. Objects of Bone (½). Nos. 107-18

109. Similar peg.

110. Peg, 2·2 in. long. Carefully squared base and perforation at top.

111. Similar peg, 2·7 in. long. Less carefully worked.

112. Peg, roughly squared at base and perforated at top. Length, 2·7 in. Another example with a slotted top and no perforation was found.

113. Pin with moulded head. Length, 1·8 in.

114. Pin with small round head and necking. Length, 1·8 in.

115. Needle, 2·7 in. long. Flattened expanded head with irregular hole.

116. Heavy needle, 4·6 in. long. Flattened expanded head with irregularly bored hole.

117. Tapering cylindrical peg, damaged on one side. The upper end is perforated. The peg is ornamented with incised zones of horizontal and diagonal lines.

118. Tapering knife-handle, 3 in. long. Square socket stained with iron rust. The surface is ornamented with vertical zones of key pattern and cross hatching, terminated at the base by a broad zigzag band and at the top by a horizontal zone of cross hatching. Some of the zones are separated by narrow bands of hatching.

119. Bone buckle with bar for leather strap. The two ends of the circular bow are roughly finished with beasts' heads, and the outer edge is serrated to represent a crest (cf. the heads on the bands of the book cover, no. 12) (pl. XXVI, *d* and fig. 18, 2).

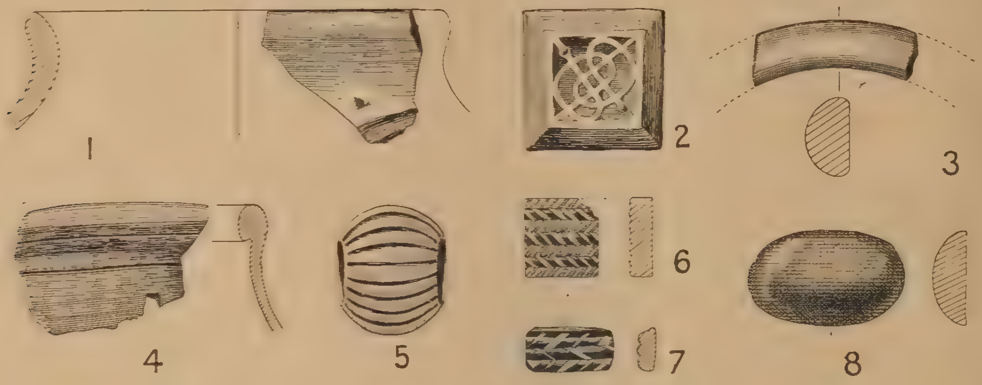


Fig. 22. Objects of Glass ($\frac{1}{1}$)

1 = 126. 2 = 34. 3 = 124. 4 = 125. 5 = 123. 6 = 121. 7 = 122. 8 = 120

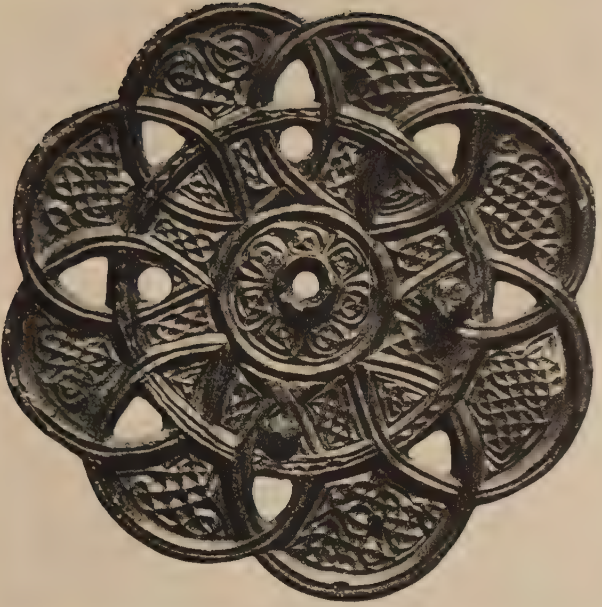
Objects of Glass

The objects of glass included ornamental settings of various types, fragments of two glass cups, and beads. No pieces of window glass were found. The two more important settings have already been described (nos. 33 and 34). The first of these is almost certainly an import, but the second and the settings now to be described are probably of native workmanship. The origin of the glass vessels is less certain. Few of these have been found in Saxon Britain. The establishment of the art credited to Benedict Biscop does not seem to have been permanent.[1] Cutbercht, Abbot of Wearmouth and Jarrow, writing in 764 asks Bishop Lul to send him a maker of glass vases ('qui vasa vitrea bene possit facere') as the art was unknown ('quia eiusdem artis ignari et inopes sumus').[2] It therefore

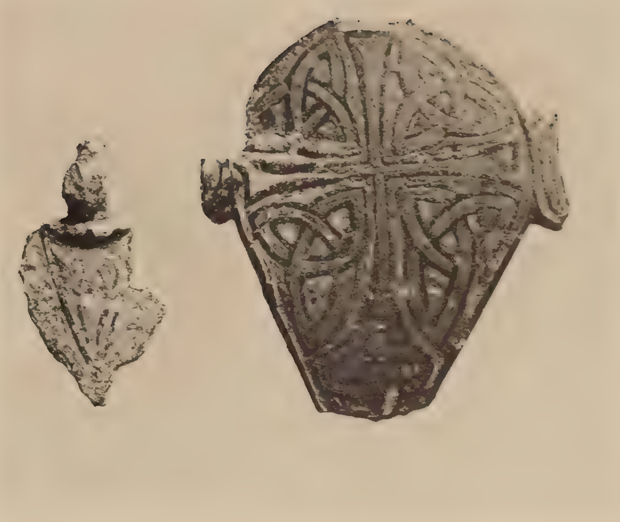
---

[1] Bede, *Historia Abbatum*, cap. V, edit. Plummer, i, 368: . . . nec solum opus postulatum (i.e. the windows of the church) compleuerunt, sed et Anglorum ex eo gentem huiusmodi artificium nosse et discere fecerunt; artificium nimirum uel lampadis aecclesiae claustris uel uasorum multifariis usibus non ignobiliter aptum.

[2] *Epp. S. Bonifatii*, 116, in *Mon. Germ. Hist.*, *Epist. Karol. Aevi*, i, 406.

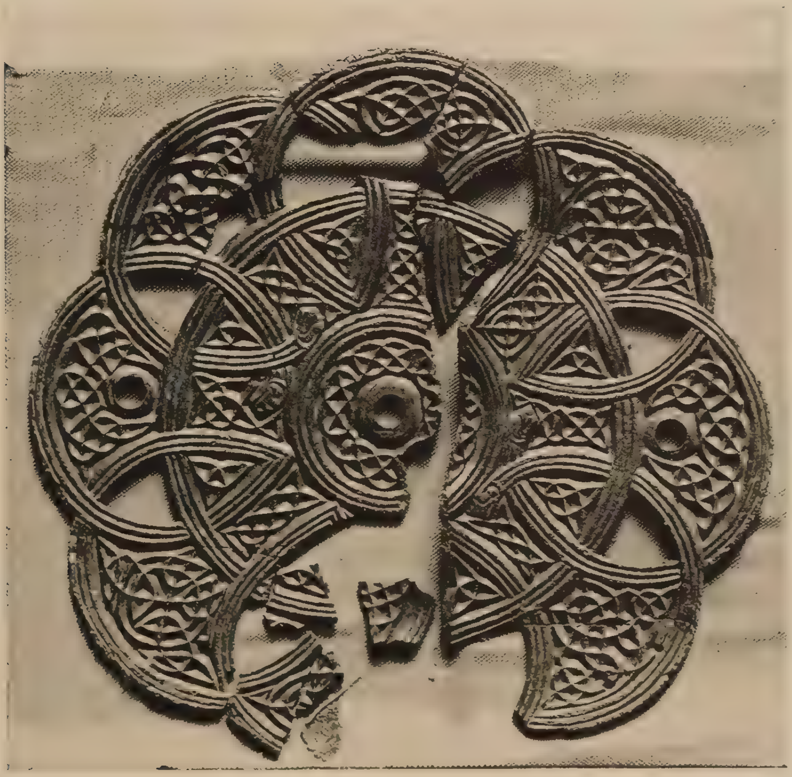


a. Book-cover no. 13

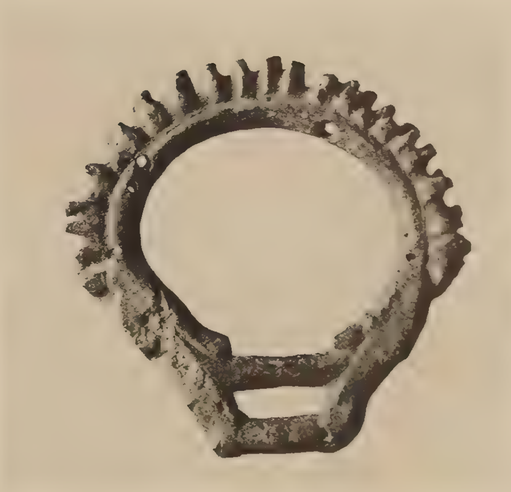


c. Bowl scutcheons

No. 2 No. 1



b. Book-cover no. 12



d. Bone buckle no. 119

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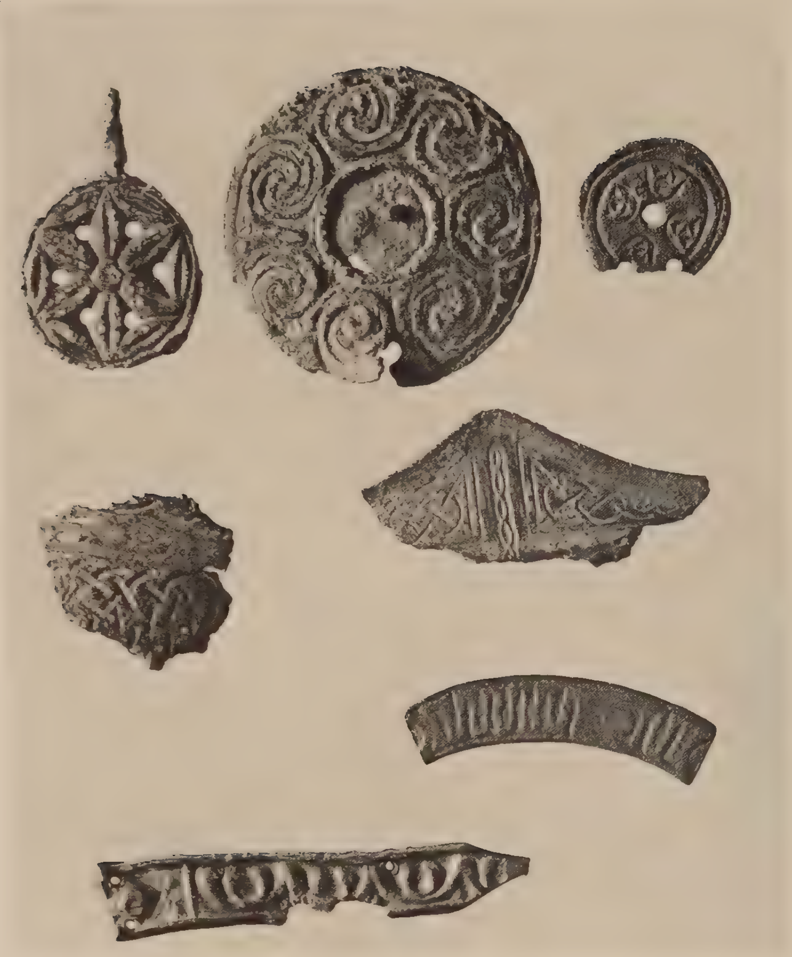
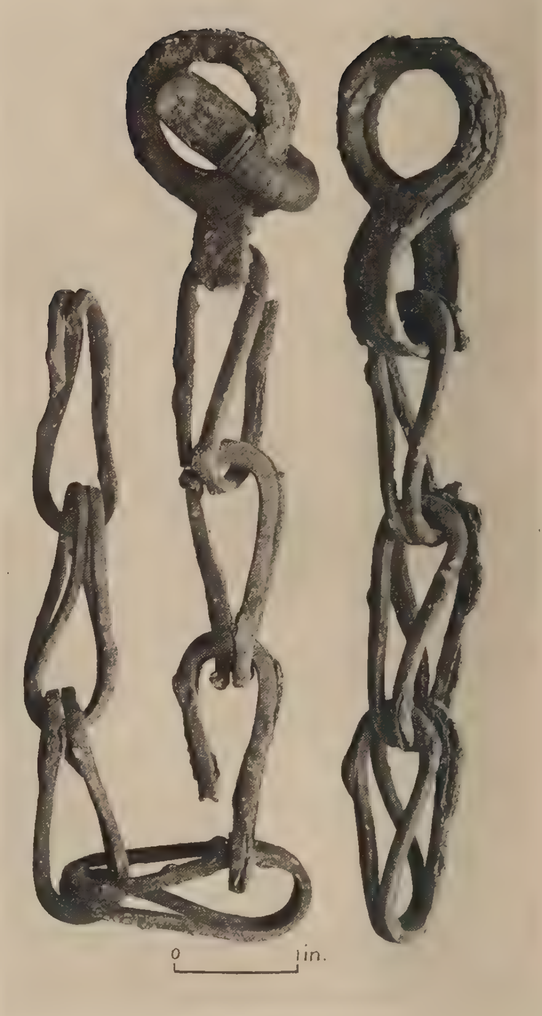
PLATE XXVII

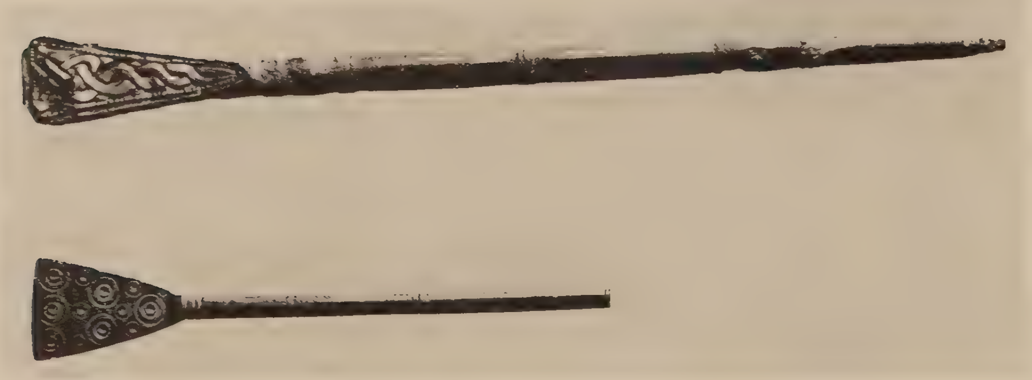


a. Bronze fragments

no. 60 no. 5 no. 19
no. 20 no. 24
no. 17 no. 7

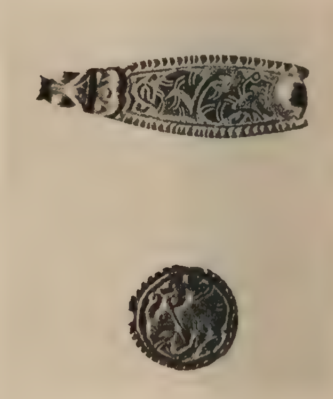


b. Bronze chain no. 9



c. Styli

no. 80
no. 81



d. Silver ornaments

no. 35
no. 15

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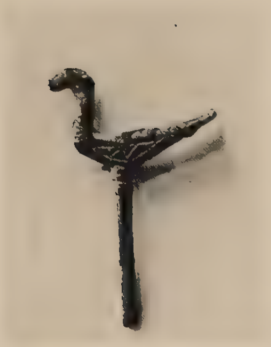
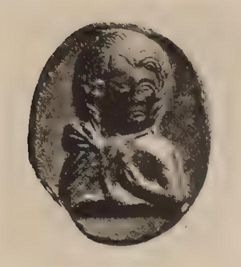
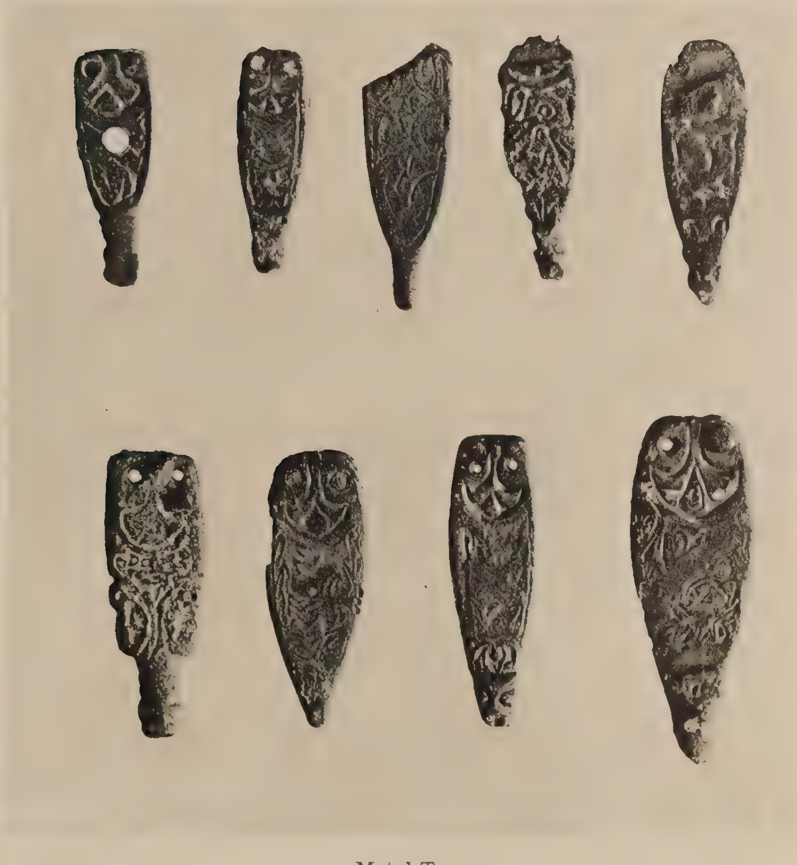


a. Bronze bird no. 32



b. Glass setting no. 33



c. Metal Tags

no. 43 no. 41 no. 45 no. 42 no. 36
no. 44 no. 40 no. 38 no. 39

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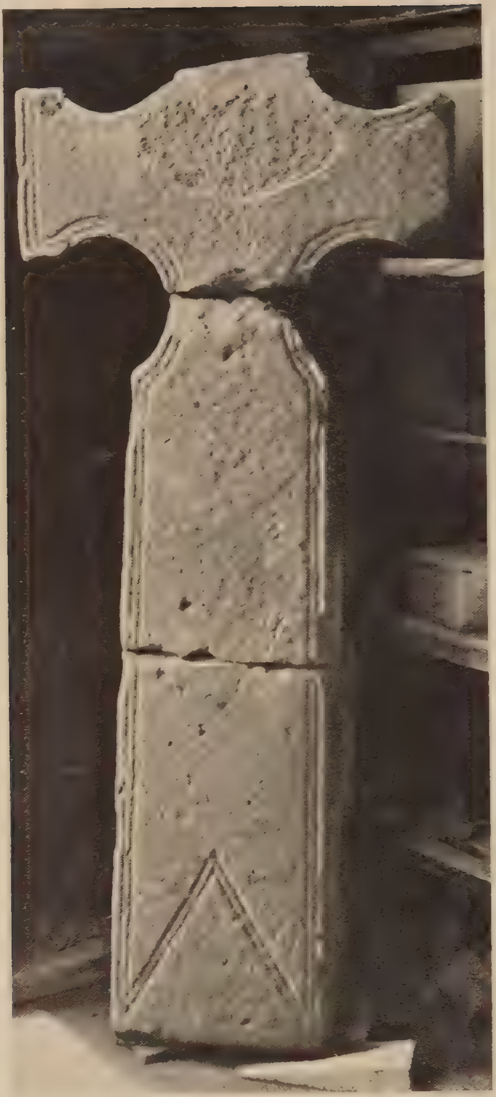
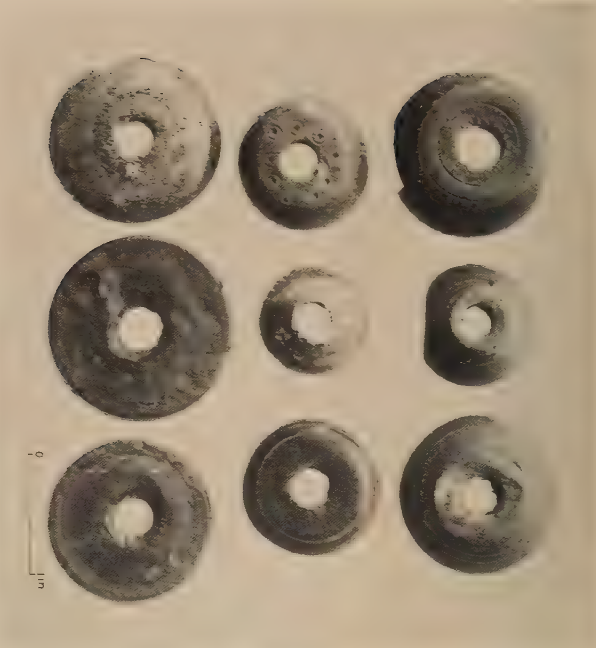
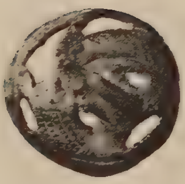
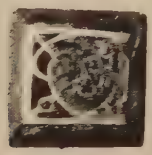
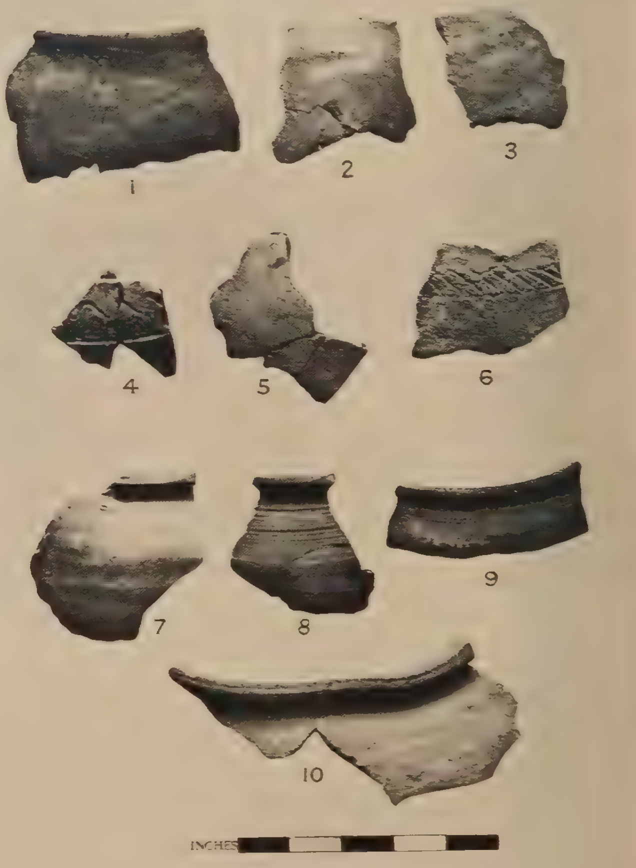
PLATE XXIX


a. Cross no. 3


b. Whorls


c. Gilt boss no. 16


d. Glass setting no. 34



e. Pottery. 1–6, Saxon; 7–10, imported Frankish and Carolingian

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seems unlikely that any flourishing manufacture had already been established in Britain in the previous century.

Ornamental settings :

120. Cabochon of bright blue glass, 0·9 in. by 0·5 in. The back is flat and rough (fig. 22, 8).

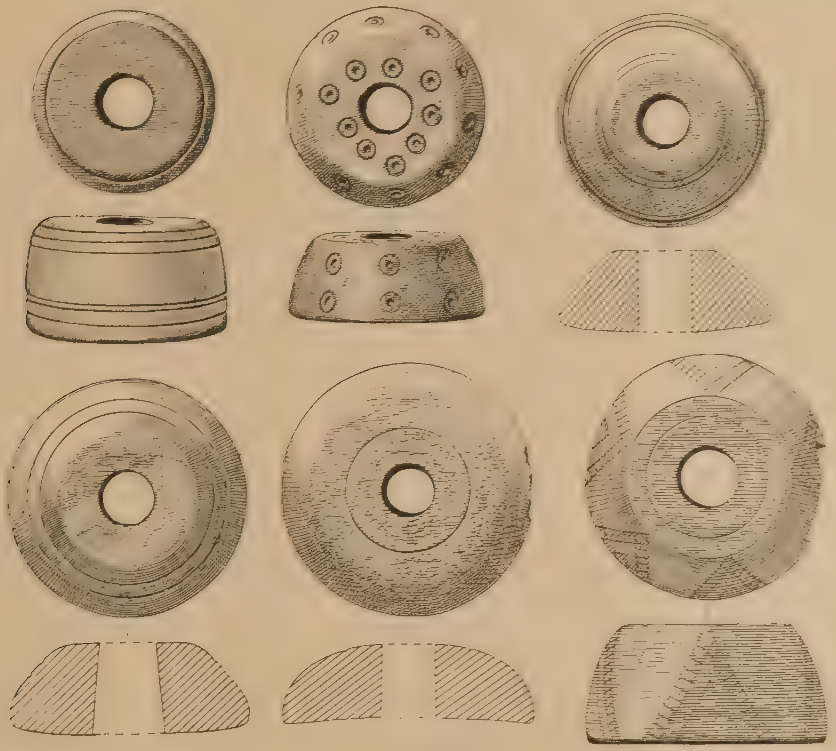

Fig. 23. Whorls ($\frac{1}{1}$)

121. Plaque, 0·4 in. square. Twisted rods of glass alternately blue and amber are laid on a sheet of pale olive glass and the whole fused together (fig. 22, 6).

122. Plaque, 0·5 in. by 0·3 in. Rods of twisted blue and yellow glass are laid on a sheet of vivid blue glass and the whole fused together (fig. 22, 7).

123. Roman melon bead. Only traces of the blue glaze appear in the hollows of the much worn surface. These beads occur not infrequently in pagan Saxon graves (Baldwin Brown, *Arts in Early England*, iv, p. 441). Three other beads of glass and one of a pink stone were found (fig. 22, 5).

124. Part of a moulded bracelet of opaque ultramarine glass. Glass bracelets of this type are also found on Irish sites of this period (*Antiq. Journ.*, xvi, 194) (fig. 22, 3).

125. Moulded and rolled rim of a cup of opaque ultramarine glass. Several imported glass vessels are included among the objects found in the Celtic monastery of Tintagel (fig. 22, 4).

126. Rim of a cup of vivid translucent green glass (fig. 22, 1).

Whorls and Discs

Whorls of limestone, slate, wood, pottery, or lead; plain or ornamented with rings and dots, in one case with incised circles (pl. XXIX, *b* and fig. 23).

None is of jet, but there is a number of rough jet discs (fig. 19, 3 and 24), flat beneath and slightly domed above, showing marks of the points of a lathe and having in some cases a cross or a single line roughly cut on the under side. The circumference has grooved lines irregularly cut. Two discs, flat on both sides, have large central piercings and one has on the underside three runes (fig. 18, 5)

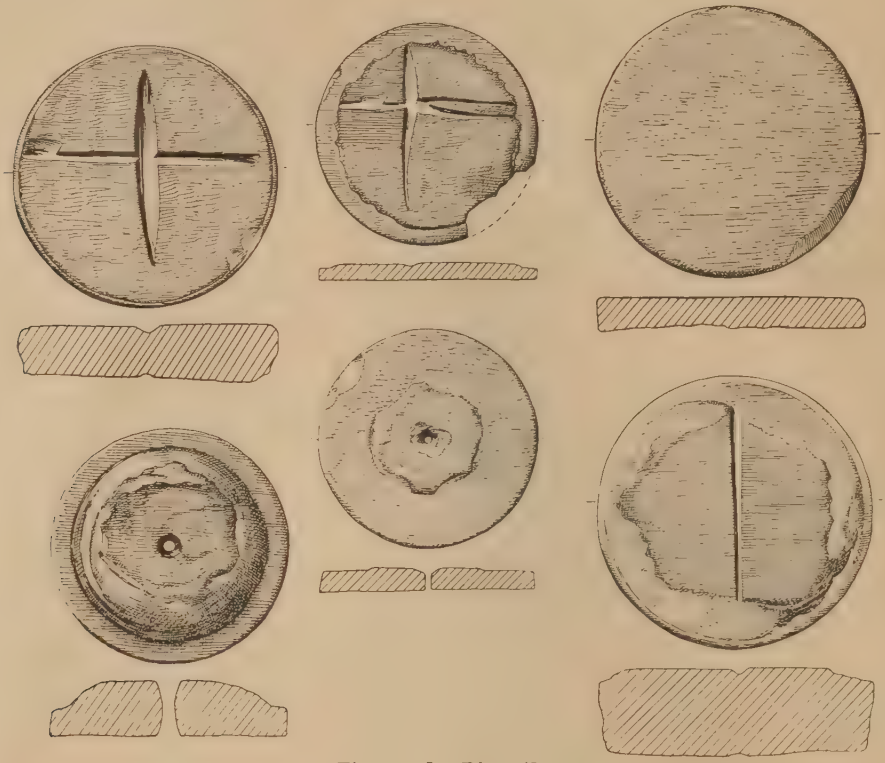
Fig. 24. Jet Discs $(\frac{1}{1})$

N[or Λ]MΠ = LEU or YEU

With one of the discs was found a circular bronze disc with a hole in the centre, of the same diameter as the jet. A section of a larger disc, 3·2 in. in diameter, with a moulded edge and a cupped central piercing, shows the lathe-marks on its outer half, while the rest of the surface of the disc is rough and irregular.

I wish to thank Mr. A. W. Clapham and Mr. T. D. Kendrick for advice and assistance in the preparation of this report and the authorities of the

British Museum for facilities granted when studying the objects which had been deposited there for safe custody.

The Pottery,[1] *by* G. C. Dunning, *F.S.A.*

Until quite recent years pottery of the late Saxon period was virtually unknown or unrecognized in England. In 1929, however, Mr. C. F. Tebbutt[2] discovered a Saxon village at St. Neots, Huntingdonshire, which is dated about the ninth century. The pottery is wheel-turned, and the forms comprise ovoid cooking-pots and bowls or dishes with heavily flanged rims; sagging bases are usual in both groups. St. Neots has become the type site for pottery of this character, to which attention was first directed by the late Prof. T. McKenny Hughes[3] and more recently by Sir Cyril Fox.[4] In the late Saxon period St. Neots pottery is limited to East Anglia,[5] and in the Norman period it formed a large component of the pottery in this region and in the eastern midlands.[6] The origin of St. Neots pottery need not be fully discussed here. It will suffice to add that in this country it has no background in the Pagan Saxon period, but close analogies for all its features are found in the various ceramic groups of the Carolingian period in the Rhineland.

In contrast to the wheel-turned St. Neots pottery, the pottery recovered from Whitby is hand-made and of the crudest description. It demonstrates the persistence of the ceramic traditions of the Pagan Saxon period at least as late as the ninth century. Evidence of this is not confined to Whitby, but is supported by finds from widely separated sites.

At Selsey Miss G. M. White (Mrs. Grahame Clark)[7] found a settlement of the South Saxons, for which a date in the late Saxon period is indicated by the bun-shaped loom-weights (see p. 83). The pottery consists entirely of plain hand-made cooking-pots, and the range in rim sections is remarkably similar to that of the Whitby pots. On the other hand close parallels for the Whitby sherds with incised linear decoration can be quoted at only one site, Elmswell, in East Yorkshire, recently excavated by Mr. A. L. Congreve.[8] At this site occupation appears to have been continuous from the late Roman period into the sixth or seventh century. The majority of the Elmswell sherds have stamped or linear decoration of Pagan Saxon affinity, but two sherds have a simple zonal pattern of incised wavy lines or festoons between girth-grooves, which are exactly comparable with one Whitby sherd (no. 24). In East Yorkshire, therefore, it appears that stamped decoration was discontinued from the seventh century onwards, and only the simplest linear patterns were employed on domestic pottery. Whether this change-over is applicable to other regions cannot yet be estimated, but further north stamped decoration certainly survived into the late seventh century, as shown by the small vessel found at Heworth, near Gateshead.[1] The entire surface of this pot is covered with the impressions of three different stamps arranged in zones, clearly a degenerate and clumsy version of the more orderly patterns well known on funerary urns of the Pagan period. The whole subject of decoration on Anglo-Saxon pottery is, however, *sub judice*, and is now being studied afresh in detail by Mr. J. N. L. Myres.[2]

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[1] A considerable quantity of late Roman pottery and coins was found on the site. The pottery includes many rims of types found in the Signal Stations of the Yorkshire coast. The material is fully discussed by M. Kitson Clark, *Gazetteer of Roman Remains in East Yorkshire* (1935), pp. 138 9.

[2] *Proc. Cambridge Antiq. Soc.*, xxxiii, 137.

[3] In a series of papers in *Proc. Cambridge Antiq. Soc.*, viii, ix, xi, and xii; *Arch. Journ.*, lix.

[4] *Proc. Prehistoric Soc. East Anglia*, iv. 227; *Antiq. Journ.*, iv, 371.

[5] List in *V.C.H. Cambridgeshire*, i, 328.

[6] *Antiq. Journ.*, xvi, 396.

[7] *Antiq. Journ.*, xiv, 393.

[8] *Hull Museum Publications*, nos. 193 and 198.

Yet a third element in later Saxon England is represented by the hand-made 'bar-lip' pottery of Frisian derivation (ninth–tenth century), published by Mr. T. D. Kendrick.[3] This has been found in East Anglia, the Thames Valley, and Cornwall. In ware and technique (but not in form) it shows partial overlapping with both the St. Neots group and the pottery of local Saxon tradition.

In brief, then, it is now possible to identify three ceramic groups in the later Saxon period. The Whitby pottery belongs to a diffuse group which, both in the Saxon and Anglian districts, shows the traditions of the Pagan period lingering on in regions unaffected by the intrusive St. Neots group. That this local Saxon element had some power of survival is shown not only by the influence it exerted on bar-lip pottery, but even in the Norman period it may be discerned in the rough, hand-made cooking-pots recently found at Pevensey Castle and also in the scratch-marked pottery of Wessex.[4]

(*a*) *Saxon Pottery*

(Fig. 25, nos. 1–22)

The local wares of Saxon type are all hand-made, without the use of the wheel. Apparently the larger pots were made by the 'mud pie' process, in which a lump of clay is simply worked up by the hands into a globular shape and the rim formed by the potter's fingers. The ware is baked fairly hard, normally grey or black in colour, and freely mixed with sharp sand which gives it a gritty or rough feel. A few of the fragments are much coarser, and the ware contains particles of crushed stone or quartz. In a few examples the surface is pitted all over, where chopped straw or grass added to the paste has been carbonized in baking. All three of these major varieties of ware are normal to the Saxon period. The surface of the pots is usually uneven and covered with small lumps and hollows made by rough moulding and smoothing with the fingers. Exceptionally the surface has been made less porous by subsequent burnishing with a flat tool or pebble. The bases are flat and mostly round-edged (nos. 1–2, 5), but better-defined and quite sharp edges also occur (nos. 3–4, 6).

Three main types are represented: globular cooking-pots with roughly flattened base (nos. 1–13), small conical vessels, probably drinking-cups (nos. 14–16), and shallow open bowls (nos. 17–22).

The rims show well-marked variations. The most usual form is slightly everted, more or less thickened, and rounded on the top (nos. 1–9). Occasionally the rim is pinched thin by the fingers (no. 11), or it may be flat-topped (nos. 10, 13). One rim (no. 12) is much finer and thinner than the others; it is everted above a concave neck, and recalls a common form of the Pagan Saxon period.

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[1] *V.C.H. Durham*, i, 216.

[2] *Antiq. Journ.*, xvii, 424; *Antiquity*, xi, 389.

[3] *Man*, xxx (1930), no. 76.

[4] *Antiq. Journ.*, xv, 186.

In form and technique it would be difficult if not impossible to distinguish the majority of these rough pots from the plain globular pots and small cups in use for

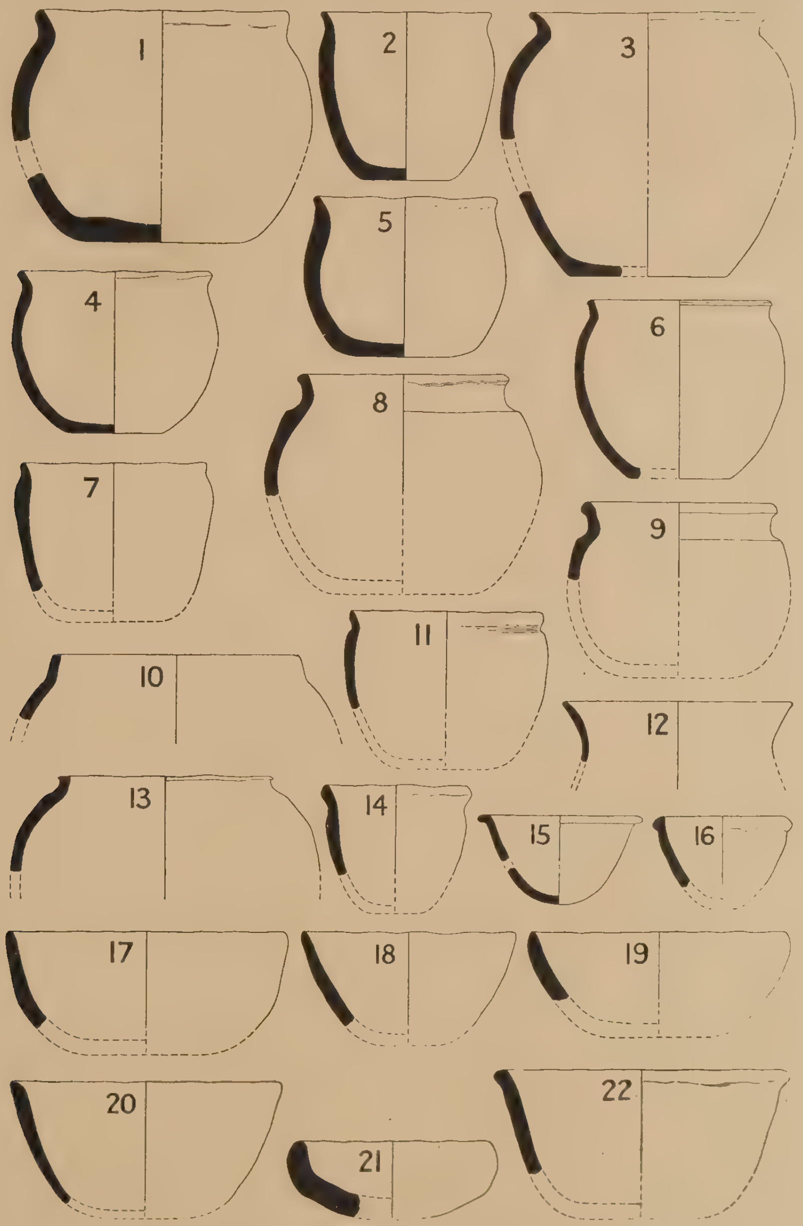

Fig. 25. Saxon Pottery: cooking-pots (1–13); drinking-cups (14–16); bowls (17–22) ($\frac{1}{4}$)

funerary and domestic purposes during the Pagan period. In comparing large groups it may be possible to make out some distinguishing feature in the rim sections. In the Pagan period the rims are usually upright or slightly everted, and the neck shows some definition, whereas in the later series the rims tend to be shorter and rather more sharply everted, and more or less thickened.[1] But the present lack of closely dated domestic pottery of the Pagan Saxon period makes it unwise to insist further on these general distinctions, which may indeed be regional rather than chronological in nature.

Two pieces (nos. 8 and 9) are exceptional, and require a word of comment; these have a thickened rim and hollow neck above a sharply angular shoulder, for which there is as yet no parallel amongst the Pagan Saxon pottery in this country. The form simulates the carinated shoulder of the so-called Huntcliff type of the late fourth century, which is common in the north of England,[2] and it may possibly be regarded as an isolated sub-Roman survival of this type in a Saxon context. The similarity is probably fortuitous, and is not supported by other evidence of the survival of Roman types. On the other hand, analogous rims were found by Prof. Gordon Childe at the fort of Larriban (*c.* A.D. 800), on the Antrim coast.[3] The hand-made pottery from this site has striking resemblances in ware, technique, and partially in form to the Saxon material from Whitby, but any attempt to define the relations of Dark Ages pottery on both sides of the Irish Sea would be premature. This carinated type is also known from late Saxon sites abroad; for instance in the terp culture of Friesland[4] and at the Kaaksburg in Holstein,[5] and it is with these that the Whitby and possibly the Larriban rims are to be associated.

Decorated pottery is rare at Whitby; only four examples are represented (nos. 23–6). The lightly burnished lattice-pattern on no. 23 is not known elsewhere on Saxon pottery, and should probably be regarded as sub-Roman. The other motifs are all incised, and consist of girth-grooves, either alone or combined with a wavy line or a series of short sloping lines to form simple zonal patterns. The complete absence of stamped decoration should be noted.

Although the pottery shows considerable variation in minor details of form and rim-section, there is nothing to indicate that these have any chronological significance. Neither is there any evidence from the site contrary to the view that the pottery represents the domestic ware in use during the entire period of the early Abbey, that is, from the middle of the seventh century to the third quarter of the ninth.

Cooking-Pots:

1 (Pl. XXIX, *e*, 1). Fragments of upper part and base of same pot. Black sandy ware, uneven brown-grey surface. Rim slightly everted. Base round-edged.

2. Fragments giving complete profile. Brownish grey sandy ware, grey surface tooled vertically. Thin everted rim.

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[1] For plain funerary pottery of the Pagan period, see Baldwin Brown, *The Arts in Early England*, iv, chap. X. Domestic pottery is best known from the Saxon village at Sutton Courtenay (*Archaeologia*, lxxiii, 176 and lxxvi, 78). Compare also pottery from hut sites on the Car Dyke at Waterbeach (*Antiq. Journ.*, vii, 141) and at Bourton-on-the-Water (*ibid.*, xii, 288).

[2] R. G. Collingwood, *Archaeology of Roman Britain*, p. 242, type 66; see also *Antiq. Journ.*, xvii, 409.

[3] *Antiq. Journ.*, xvi, 191, fig. 5, no. 15.

[4] *Derde Jaarverslag van de Vereeniging voor Terpenonderzoek*, 1918–19, p. 20, pl. iii, third row, second pot from left.

[5] H. Hofmeister, *Urholstein* (Glückstadt, 1932), p. 60, fig. 25, nos. 4 and 10.

3. Fragments of upper part and base of same pot. Black sandy ware, uneven surface roughly tooled vertically. Rim thin and everted. Base angle well defined.

4. Fragments of upper part and base of same pot. Coarse sandy black ware with grains of quartz, uneven grey-brown surface. Thin everted rim, squared on top.

5. Fragments giving complete profile. Black sandy ware, tooled black surface. Rim rounded and slightly everted. Base round-edged.

6. Fragments of upper part and base of same pot. Sandy black ware, smoothed grey-brown surface. Thin everted rim, squared on top. Base angle well defined.

7 (Pl. XXIX, *c*, 2). Fragment of upper part of pot. Black ware, inner surface pitted, outside tooled and polished. Rim thin and rounded.

8. Upper part of pot. Sandy grey ware, slightly uneven grey surface. Thickened rounded rim and concave neck, separated from the body of the pot by a high angular shoulder.

9. Rim fragment. Type similar to no. 8. Sandy black ware, smooth surface.

10. Rim fragment. Sandy black ware with grains of quartz. Rim squared on top, straight neck inclined inwards.

11. Upper part of pot. Sandy black ware with few grains of quartz, uneven grey surface. Rim thin and separated by a constriction from body of pot.

12. Rim fragment. Sandy grey ware with pitted surface, outside well tooled. Thin everted rim with well-marked concave neck.

13. Upper part of pot. Sandy black ware, uneven surface. Rim flat on top and pressed down on outer edge.

Drinking-Cups:

14. Upper part of drinking-cup. Sandy black ware, smooth surface. Rim thickened outside above slight neck, and rounded shoulder.

15. Fragments of hemispherical cup with rounded base. Sandy black ware, smooth surface. Flanged rim, rounded on outer edge. The form suggests that it is a clay copy of the glass cups sometimes found in Saxon burials; for a similar clay cup cf. *Antiq. Journ.*, xii. 280, fig. 5, no. 10.

16. Fragment of drinking-cup. Sandy black ware, uneven surface. Rim folded over outside.

Bowls:

17. Fragment of open bowl. Sandy black ware, smooth surface. Thin rounded rim.

18 (Pl. XXIX, *c*, 3). Fragment of open bowl. Sandy black ware with particles of quartz and crushed stone, uneven surface. Thin rounded rim.

19. Rim of open bowl. Sandy grey ware, uneven surface. Thin rounded rim.

20. Fragment of open bowl. Sandy grey ware, uneven surface, tooled vertically. Rim bevelled on inside.

21. Fragment of shallow open bowl or drinking-cup. Coarse sandy grey ware, pitted light brown uneven surface. Rounded rim. The side of the bowl is very thick for its size.

22. Fragment of open bowl. Sandy black ware, uneven surface burnt light red. Rim slightly everted.

Decorated Fragments:

23 (Pl. XXIX, *c*, 5). Fragments of the side of a cooking-pot. Sandy black ware, light reddish-brown surface. The surface is decorated with lightly burnished grooves forming a lattice-pattern.

24 (Pl. XXIX, *c*, 4). Upper part of pot. Sandy grey ware, smooth grey surface. Decorated with deeply incised wavy line between girth-grooves.

25. Fragments of lower part of pot. Coarse black ware with sparse white grit, smooth grey-buff surface. Decorated with three sharply incised girth-grooves.

26 (Pl. XXIX, *c*, 6). Upper part of pot. Sandy black ware, smooth grey surface, over-fired and cracked in baking. Decorated with a series of incised sloping lines between girth-grooves.

(*b*) *Imported Pottery*

(Fig. 26, nos. 27–34)

In contrast to the local Saxon pottery, all the imported wares are turned on the wheel. They are easily distinguished from the local products by the finer and harder quality of the ware, due to firing at a higher temperature in a kiln, and the careful finishing of the surface, resultant on the wheel technique. The pottery may be divided into two groups: (1) Frankish, of the seventh and eighth centuries, to which group the majority of the examples (six) belong, and (2) Carolingian, of the ninth century, represented by fragments of two pots.

(1) *Frankish Pottery*. The main type, represented by three examples (nos. 27–9), is an ovoid pot with a tendency to the bi-conical form prevalent on Frankish pottery abroad. The characteristics of this type are as follows: the rim is sharply everted, squared on the outer edge, slightly concave on the inner side, with more or less defined offset at the junction with the side of the pot. The latter shows the horizontal corrugation frequent on Frankish pots, which probably results from a rather clumsy technique on the wheel, as also does the unusual thickness of the vessel towards its base (nos. 27, 29). Fragments of a small pot (no. 29) give a complete profile, and the flat base is confirmed by basal sherds of four different vessels. A sherd with the place of attachment of a handle on the shoulder appears to be part of a vessel of about the same size as no. 29, but its type cannot be determined.

The largest vessel of this Frankish type (no. 32) shows a more bulging form of the bi-conical type, with the usual corrugation of the surface well marked. Although the upper part of the pot is thin, the technique is clumsy and the lower parts of the sides sag over the thick flat base.

The wide-mouthed bowl (no. 30) shows the bi-conical form more strongly marked, and on this pot the corrugation is emphasized in regular rilling above the shoulder. Part of a second wide-mouthed pot (no. 31) has bands of rouletted notches made by a roller-stamp.

This Frankish pottery was probably imported from the Rhineland, where pottery centres are known near Cologne, at Trier, and in the Eifel region. In particular, four of the Whitby pots (nos. 27–9, 32) compare closely as regards rim section and form with pottery from Mayen in the Eifel. Pottery considered to be Mayen ware was extensively exported to Holland, and reference is made to the long series of the eighth century from the cemetery at Wageningen.[1] In the Rhineland pottery analogous to that from Whitby was used for domestic purposes, for instance in the Frankish settlement at Gladbach, near Neuwied.[2]

The bowl (no. 30) has numerous parallels from Frankish cemeteries in the Rhineland,[3] and the roller-stamped decoration on no. 31 is a well-known characteristic of much

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[1] *Oudheidkundige Mededeelingen*, N.R., ix, 97 ff., figs. 17–21; comparative material from Mayen is illustrated in figs. 23–4. The date of Mayen ware is discussed in *Germania*, xxii, 118.

[2] *Germania*, xxii, 180, pl. 34.

[3] e.g. Lindenschmit, *Altertümer u. h. Vorzeit*, i, 4, pl. 5, no. 4; Veeck, *Die Alamannen in Württemberg*, pl. 17.

Frankish pottery both there and elsewhere.[1] Small wide-mouthed bowls were also made at Mayen, but the published examples are more sharply carinated than the Whitby pots. The ware of the Whitby bowls is, however, so closely similar to that of the larger pots (nos. 27–9) that the same origin is highly probable for both types.

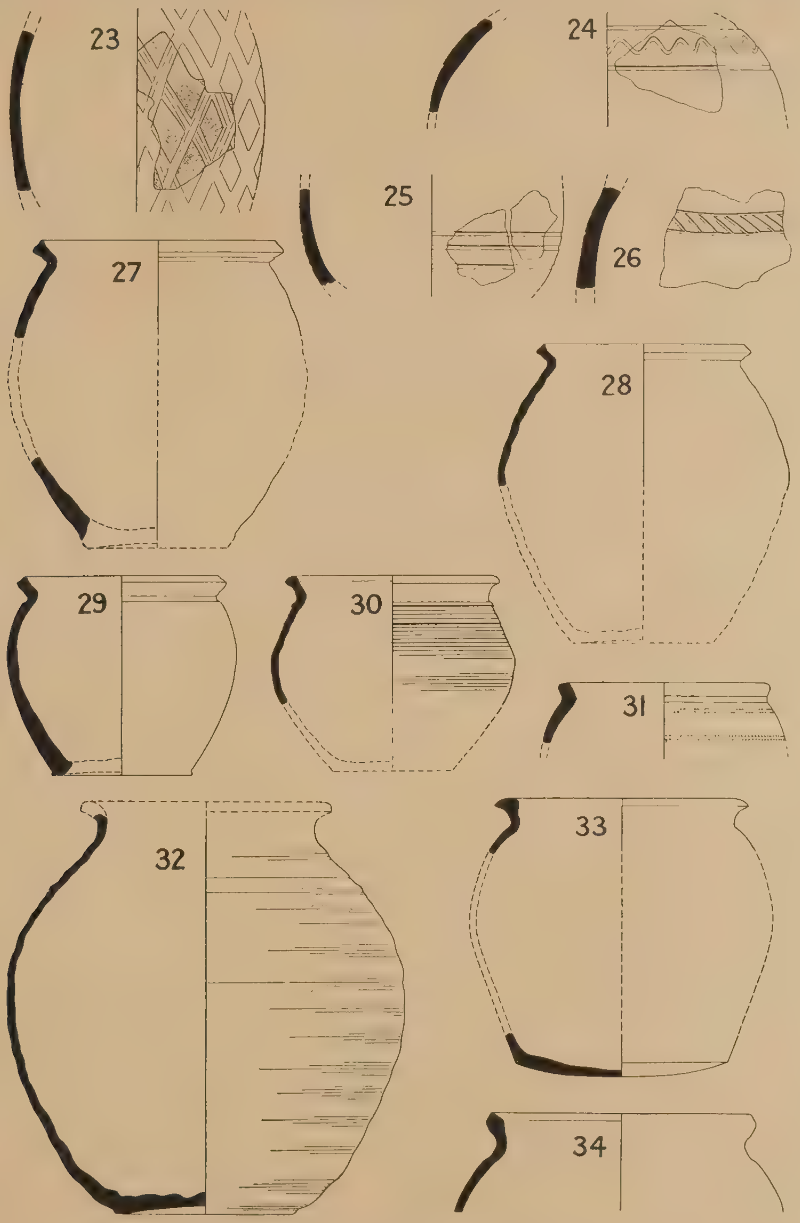

Fig. 26. Pottery: decorated Saxon fragments (23–6); imported Frankish (27–32); imported Carolingian (33–4) (¼)

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[1] For the technique and Frankish examples, see Unverzagt, *Terra sigillata mit Rädchenverzierung*, pp. 16, 41.

27. Fragments of rim and lower part of same pot. Ovoid cooking-pot with angular rim and off-set at junction with the side. Wheel-turned, fine sandy black ware, buff inside.

28 (pl. XXIX, *e*, 7). Fragment of similar pot with slightly angular shoulder. Wheel-turned, sandy black ware, buff inside, with corrugated surface.

29. Fragments of small pot, section complete to the base. Wheel-turned, sandy black ware, grey surface, buff on lower part.

30 (pl. XXIX, *e*, 8). Upper part of wide-mouthed bowl with expanded rim, cordon and rilling above the angular shoulder. Wheel-turned, sandy black ware.

31 (pl. XXIX, *e*, 9). Upper part of pot with everted rim. Wheel-turned, fine sandy black ware, black surface with buff patches. Zonal decoration of two bands of rouletted notches.

32. Ovoid cooking-pot, section complete nearly to the rim. Wheel-turned, thin smooth reddish ware, dark grey corrugated surface.

(2) *Carolingian Pottery.* This category is represented by only two pots, both of extremely hard over-fired ware with characteristic harsh surface. In one place the rim of no. 34 has partially collapsed and is distorted, owing to pressure from the vessel stacked above it in the kiln; although accidental, this feature is of common occurrence on pottery of this date abroad.

The characteristic feature of these globular cooking-pots is the sagging base, which is not proper to pottery but to metal-work. Its origin is to be sought in the Rhineland, and probably it is an attempt to copy some widely diffused type of metal vessel, such as the bronze bowls found in Frankish graves.[1] In the Rhineland the earliest sagging bases are sometimes found on ovoid or globular pots of the eighth century,[2] but they are more general in the ninth[3] and succeeding centuries. Likewise in England, the earliest base of this kind is on the Richborough pitcher (probably late eighth century),[4] but here too it is more typical of the wheel-turned St. Neots pottery of East Anglia, and lasted from the ninth century[5] throughout the medieval period.

The angular, swollen rims of the Whitby pots are comparable with the rim of a complete pot with sagging base from the Tempelbezirk, Trier, where sherds of identical rim-section were found in association with an early ninth-century coin.[6]

Cooking-pots of this character were made at several places in the Rhineland, at Mayen itself and also at Badorf, near Cologne.[7] Until closer comparison is made with the material from these and other sites, it can only be stated that the Whitby pots are most probably of Rhenish origin.

33. Fragments of rim and base of same cooking-pot. Rim expanded, rounded on top, and with sharp outer edge. Sagging base with well-defined basal angle. Wheel-turned, hard gritty grey ware with harsh surface, dark grey outside, light red to buff inside.

34 (pl. XXIX, *e*, 10). Upper part of cooking-pot. Rim swollen and angular. Wheel-turned, gritty grey ware of hardest quality, over-fired and partially distorted, harsh grey surface.

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[1] *Altertümer u. h. Vorzeit*, v, 19, pl. 6, no. 106.

[2] *Nachrichtenblatt für Deutsche Vorzeit*, xiv, 306; *Oudheid. Mededeel.*, N.R., ix, 98, fig. 18, nos. 69 and 73. The pots have slight sagging bases, not correctly shown in the published drawings.

[3] e.g. at Godlinze, *Vierde Jaarverslag van de Vereeniging voor Terpenonderzoek*, 1919–20, pp. 49 ff., pls. III and V, nos. 2–8.

[4] *Third Richborough Report*, p. 186, pl. XLII, 362.

[5] *Proc. Cambridge Antiq. Soc.*, xxxiii, 148, pl. II, fig. 2.

[6] *Trierer Zeitschrift*, xi, 84, pl. 3, no. 4.

[7] *Germania*, xvi, 231; see also Arbman, *Schweden und das Karolingische Reich*, p. 96, pl. 19, no. 4.

Loom-Weights (fig. 27)

No less than one hundred of the baked clay rings usually identified as loom-weights were found at Whitby. Similar clay rings are known from a number of sites of the Pagan Saxon and later periods, and are now classified in two types of different date.

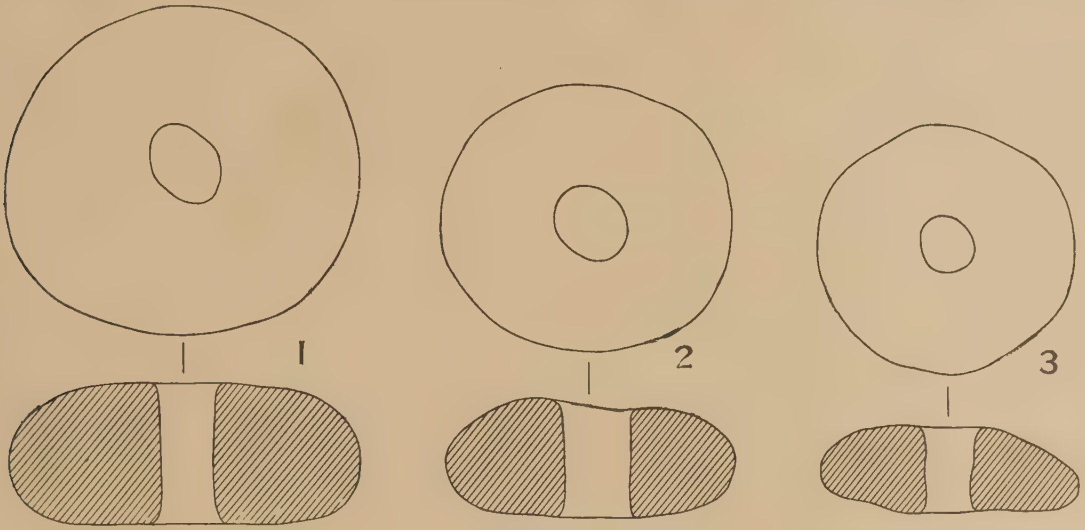

Fig. 27. Baked-clay loom-weights (½)

(1) Annular. In the Pagan period the rings are flat in section, with a relatively large central opening. This type is the only one represented in the Saxon village at Sutton Courtenay[1] and in the hut at Bourton-on-the-Water,[2] and occurs in London and elsewhere.

(2) Bun-shaped. This type is thicker and more massive, with a smaller hole. It has been found on late Saxon sites in North Germany and Holland,[3] and may be ascribed to the eighth to tenth centuries. The dating is confirmed by the occurrence of the bun-shaped type in huts at St. Neots (ninth century), and at Whitby.

The Whitby loom-weights are exclusively of the bun-shaped type, and may be divided into three classes according to size.

Class	*Diameter*	*Thickness*
Large (30 examples)	4 in.	1½ to 2 in.
Medium (60 examples)	3 to 3½ in.	1 to 1½ in.
Small (10 examples)	2½ to 3 in.	1 in.

It may be noted that Saxon loom-weights were commonly used in sets of four. Whether this was the case at Whitby cannot now be determined.

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[1] *Archaeologia*, lxxiii, 180.

[2] *Antiq. Journ.*, xii, 290.

[3] References given by R. E. M. Wheeler, *London and the Saxons* (London Museum Catalogues, no. 6), p. 154.

The Beads, by the late HORACE C. BECK, *F.S.A.*

(1) *Annular Bead of Cobalt Glass.* There are two very similar types of bead, one La Tène and the other Saxon, that closely resemble this specimen. It is difficult to be certain to which type this belongs, but I think it is Saxon. A bead from a Saxon burial at Castle Bytham is practically identical, and so are some of the blue beads from Barrington.

One small difference is that there is a tendency to have a slightly higher sp. gr. in the Saxon beads than in the La Tène. The sp. gr. of the Whitby bead and of the Barrington beads are both 2·486, whilst the sp. gr. of all the annular blue glass La Tène beads that I have tested lie between 2·28 and 2·4. The specimens from England and France lie between 2·28 and 2·34, while a Scotch specimen is 2·386. This difference is so small that I do not like to lay much stress on it, but in all the specimens I have tested, from about a dozen sites, it has persisted in a way that has surprised me.

(2) *Bright Blue almost Spherical Bead.* This is also a cobalt glass. It is difficult to date as I have no record of an exactly similar bead from a grave. Practically identical beads have been found at Lakenheath and have been vaguely put down as probably Roman or Saxon. The sp. gr. of this bead is 2·486, and a similar one from Lakenheath has sp. gr. 2·488. (The error in taking the sp. gr. of such small objects is much greater than the difference shown between these two figures.)

(3) *Spherical Green Glass Bead.* This bead is very similar to some of the beads from Saxon cemeteries in Kent. The Kentish specimens I have seen have the same shape and numbers of large bubbles, but are of a rather different shade of green. I feel very little doubt that if I examined a larger number I should be able to match this colour exactly.

(4) *Pink Glass Square Barrel Bead.* This bead is of an unusual form for Saxon beads, and early glass of this colour is very rare. It has a sp. gr. of 3·59, which is very high for an ancient bead found in this country, but ancient beads with as high and even a great deal higher sp. gr. have been found in various countries round the Mediterranean. Glass resembling this is occasionally found in Roman Millefiore bowls.

A spherical bead of the same colour has been found at Lakenheath; it is not dated and has a sp. gr. of 2·68.

Another spherical bead which I believe to be made of the same glass was found at South Ferriby and is now in the Hull Museum; it is called Roman.

Another specimen is in the University Museum at Cambridge which has come from the Crimea.

If these four beads from Whitby have been found together I should think that they are probably late Roman or Saxon.

The Coins from Whitby, by J. ALLAN, *F.S.A.*

If we exclude 11 Roman coins of the fourth century (two of which, it is worth noting, were found with a hoard of 22 Northumbrian coins), a few medieval English silver, a number of the inevitable reckoning counters of the sixteenth century, and some George halfpence, the bulk of the coins found at Whitby forms a homogeneous group covering the period *c.* A.D. 700 to 850, which is just what one would expect from the other features of the site. Of these pieces the most notable were 17 of the early silver pieces known as sceattas, the types of which can be traced to Roman originals. At first little more than degenerate copies of certain late Roman types, they soon show an originality in development of type and ornamentation which gives them an important place in Anglo-Saxon art. The sceattas from Whitby included the type bearing the name Epa in Runic characters (*B.M.C.A.-S. Coins*, i, pl. I. 10), the obverse of which is a copy of a Roman radiate bust and the reverse based on the Constantinian type of a standard inscribed VOT XX between two captives, the prototype of a large group of sceattas, uninscribed pieces of similar type (*ibid.*, pl. II, 7); coins with a well-executed bust of Merovingian type and a long cross on the obverse and a standing figure holding cross and bird (*ibid.*, pl. II, 22), which goes back to a Roman type with reverse a standing figure holding labarum and victory; and fine specimens of the 'dragon' types, which show a complete departure from Roman originals (*ibid.*, pl. IV, 3, 8). The finding of these coins here is of importance because they are associated with the earliest coins of Northumbria of which we know the dates, and there is no reason to doubt they immediately preceded the latter. This is a valuable datum for the chronology of the sceatta series in general. This is also the first record of sceattas being found so far north, although the fact that the earliest coins of Northumbria copy the sceatta types shows that they must have been known in Northumbria. It is clear that the coinage north and south of the Humber was much more uniform in earlier times than it became after the end of the eighth century when Northumbria developed its own characteristic type, the so-called styca.

The coins of the kings of Northumbria were well represented by over 100 pieces, of which the earlier are silver pieces which may still be called sceattas, as they follow in type and standard the coins just mentioned. Among the kings represented are Ealdfrith (A.D. 685–705) by two coins with reverse a fantastic dragon (*op. cit.*, pl. XX, 2); Eadberht (A.D. 757–8), including both varieties of his dragon type (*ibid.*, pl. XX, 4 and 5), and three specimens of his coinage in the name of himself and his brother Ecgberht, archbishop of York, the reverse of which by an easy adaptation of a common sceatta Roman type shows the prelate standing holding a cross in either hand (*ibid.*, pl. XX, 3). Aelfwald I (A.D. 778–89) was represented by one coin with reverse a dragon (*ibid.*, pl. XX, 11), the last silver sceatta to be issued. His successors struck the copper pieces usually known as stycas, but it is not certain these are not debased sceattas as they still contain a rapidly diminishing proportion of silver which ultimately disappears. The only ruler in the early period of whom silver coins are not known and not represented at Whitby is Alhred (A.D. 766–74); and the absence of the coins attributed to Ecgfrith (670–85) in the British Museum Catalogue strengthens the doubts as to the correctness of this attribution raised by the metal and types of these pieces. The numerous later copper stycas, which call for no comment, are of Eardwulf (A.D. 796–806), Eanred (807–41), and Ethelred II (841–9) (the bulk being of these two reigns), Redwulf (844), and Osberht (849–57). All the kings known to have struck stycas are represented. In conclusion one may mention the 17 specimens of the parallel coinages of the archbishops of York, Eanbald II (A.D. 796–808) and Wigmund (837–54), in addition to the joint coinage of Ecgberht (734–766) already mentioned.

A Textile from Whitby, wool fabric in 2 × 2 twill, by Mrs. J. W. Crowfoot

This textile was found in the Saxon cemetery of Whitby. It is of interest because so few early textiles have been found in England. It may belong to the Saxon period, before A.D. 875, when the early occupation of the cemetery ended; the dating, however, is not absolutely certain as there was a reoccupation after A.D. 1100.

The best-preserved portion of the textile is shown in the photograph, pl. xxx, *b*; the greatest dimensions are 7½ by 4½ in. The border is not preserved and it is not possible even to guess at the original width of the cloth. The texture is open and there is no trace of felting; the surface is very smooth, not woolly at all. The yarn is even, *Z* spun or 'right spun' according to English usage; the colour is brownish. The fibres have been examined at the Shirley Institute and the Director has very kindly sent the following report: 'The fibres pulled down from the fabric have been examined under the microscope, transverse sections have been cut and the fibres have been subjected to certain tests. The appearance of the fibres and of the sections indicate that they are wool, although the scales have disappeared and there is no definite trace of them. The result of solubility and staining tests, the odour produced when the fibres are burnt, are all consistent with the fabric being wool.

'In addition we find that the fabric contains a heavy content of iron oxide but it is impossible to say at this stage if it is pigment or whether it has been used as a mordant for one of the natural organic dyestuffs. When the iron is removed there are traces of a yellowish colour which it is not possible to identify.'

The weave is a 2 × 2 twill, with count 40 × 60 threads to the inch, the sparser set of threads being the finer of the two; one cannot be certain which is warp and which is weft. It is a fairly good piece of craftmanship, though the count does vary slightly in places.[1]

There is nothing in the nature of the weave to preclude its belonging to the Saxon period; twills, especially diagonals, were popular in Northern Europe from the Roman period onwards; I have made such comparisons as are possible with the published material but the Whitby textile does not seem very close to any of the diagonals of the Northern groups either in texture or count. In the twills described from Birka the warp is often crowded while the weft is sparse, a condition no doubt favoured by the reedless warp-weighted loom on which they were made.[2] In our piece the disparity between

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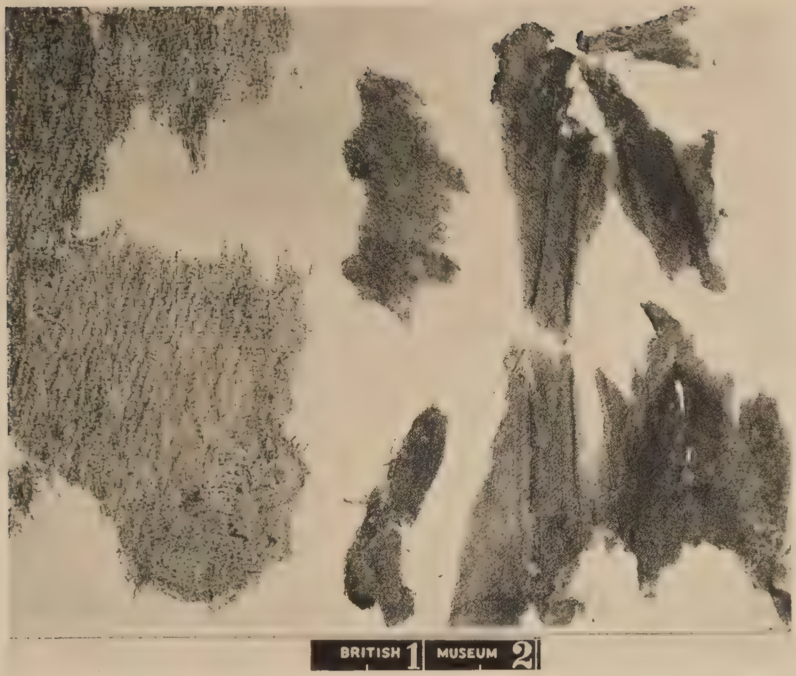
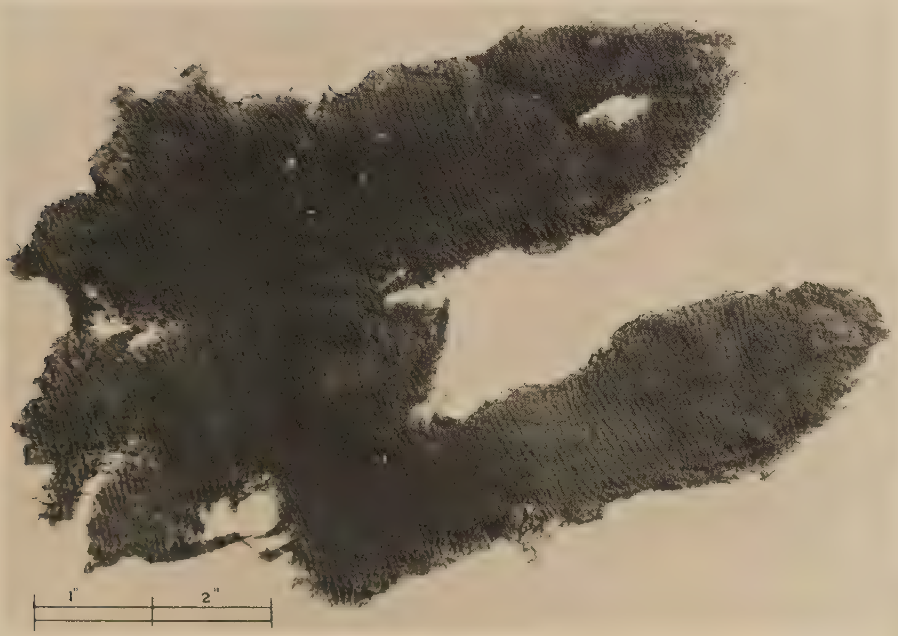
[1] My grateful thanks are due to Mrs. Griffith for assistance in studying this textile.

[2] The earliest evidence for the presence of the treadle loom in the North is given by the recent discovery of a harness pulley from Sigtuna, of the eleventh to twelfth century. See A. Geijer and J. E. Anderbjörk, 'Two textile implements', *Folk-Liv.*, 1939, no. 2–3.



a. Twill weave from Sutton Hoo



b. Woollen textile in 2 × 2 twill from Whitby

warp and weft and the variety in count is not sufficiently striking to point definitely to the use of a primitive loom.

Until recently there has been no material from England with which to compare the Whitby textile. Now, however, we have the notable group of textiles of the Saxon period found at Sutton Hoo. These are in safe keeping and cannot be studied till peace returns; they include several varieties of twill, and the fact that twills were present in England at this date is so valuable that I have gladly availed myself of Mr. Kendrick's kind suggestion of an advance publication, and a small selection of these twills is therefore shown on pl. xxx, *a*. On the left of the photograph is a 2 × 2 twill; counts of this give 40 × 80 threads to the inch in places, and it may be, on the analogy of the Northern twills, that what at first sight one would take to be the crowded weft is really the warp. I think that I can detect threads both right and left spun in the fabric, probably, as is so often the case both in ancient and modern textiles, warp and weft were spun in different ways. In the centre of the photograph is another twill, possibly also a 2 × 2 diagonal, of much finer quality; but though the presence of these diagonal twills at Sutton Hoo would support a Saxon dating for the Whitby textile, neither of the two shown in the photograph seems very close: one is obviously much finer, the other is closer in texture and differs in count.

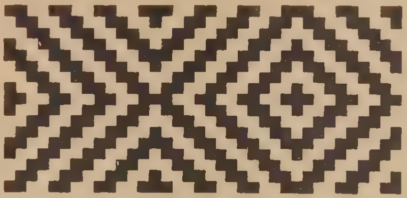


Fig. 28. Probable weave of the Sutton Hoo diamond twill

The results of this investigation are disappointingly inconclusive; we have for the time being to be content that here, found on English soil, is a twill textile which there seems no reason to doubt was woven in England and which may very possibly be as early as the Saxon period.

The fragments of a textile shown on the right-hand side of the same photograph are so interesting that they are worth mentioning here although very different from the Whitby textile. These fragments are in a diamond twill, and I believe it is one based on 2 × 2 twill as shown in fig. 28, my view being strengthened by the photograph of the back of the textile (not published)[1] in which the diamonds appear very similar to those on the front, as is usual in 2 × 2 twills. This weave (fig. 28) is one of the many varieties of the popular 'Goose eye', repeating on fourteen threads, the unusual appearance of the original with its elongated diamonds being due, I think, to a preponderance of warp over weft; samples woven in this way seemed to give just the right effect. If my identification of the weave is correct, it differs from any early diamond twills known to me, whether Eastern or Northern. Two very fine diamond serges are recorded from Palmyra (first to third cent. A.D.) both 2 × 2, but of some elaboration, requiring 8 heddles and with weft predominating, one actually having warp 16 by weft 160 to the cm.[2] The only known Egyptian example, which comes from Karanis (fourth to fifth cent. A.D.), appears from the diagram given to be the classic 3 × 1 serge.[3] In the North the material for comparison is more plentiful. At Birka (ninth cent. A.D.) the fine and extremely uniform textiles of Group II, equated by Dr. Geijer with the famous 'Frisian cloths' of literature, are almost all diamond twills, forty being recorded.[1] But these diamond twills, and indeed all those from Scandinavia whether of the Migration period or of the later Iron Age which have been studied by Dr. Geijer, have been found by her to be broken (*versetzt*),[2] and this is a peculiarity which I cannot discover in the Sutton Hoo diamond which seems to reverse regularly as shown in fig. 28.

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[1] A strong line is seen across this textile, both on back and front; if in the weave, this may be due to a tabby 'stitch' recurring at intervals, if not it is probably a fold.

[2] R. Pfister, *Nouveaux textiles de Palmyre*, 1937, p. 24; L 43, 44.

[3] Lillian M. Wilson, *Ancient Textiles from Egypt*, p. 17, no. 13, pl. 2.

This patterned twill then differs from all other early twills known to me and there would seem no reason why it too should not have been woven in England, which is known to have been a centre of the weaving industry in earlier days.

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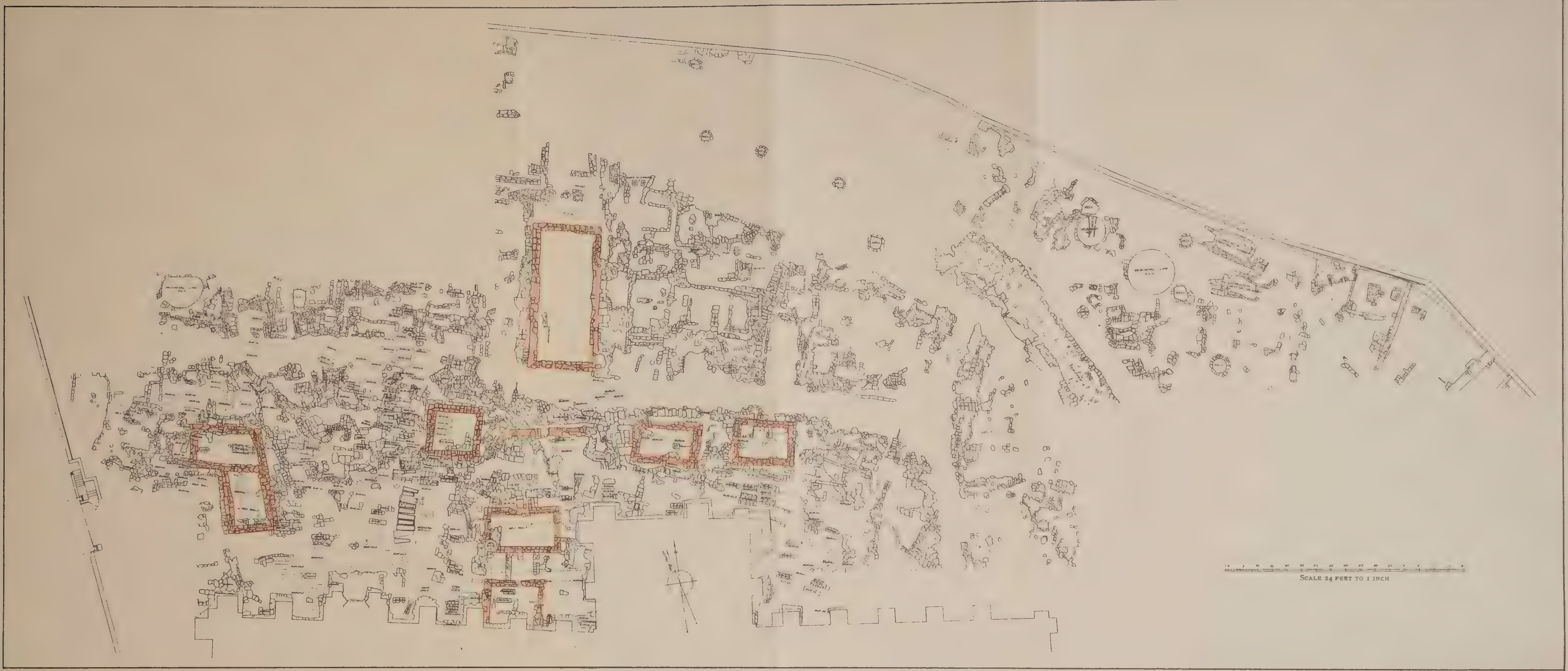
[1] Agnes Geijer, *Birka III*, pp. 22–6, figs. 2–4, pl. 4.

[2] Dr. Geijer attributes the broken character of these diamond twills to some technical cause possibly connected with the class of border by means of which they were warped on to the warp-weighted loom. Certainly border and weave do suit each other, but I am inclined to think that there may also be an aesthetic reason. The pattern made by the diamonds of these twills is oddly suggestive of a fret or simple key design quite in the vein of the diagonal designs, frets, swastikas, and the like, seen on the brocaded tablet woven bands, also found at Birka.



Whitby Abbey: foundations of early monastery, shown in red

Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

III.—*A Bronze Age Barrow (Sutton 268′) in Llandow Parish, Glamorganshire*

By Sir Cyril Fox, *V.-P.S.A., F.B.A.*

Read 31st October 1940

Introduction

The Lias peneplain of the Vale of Glamorgan west of the Thaw valley forms an undulating plateau dissected by streams, the higher portions being from 250 to 300 ft. above sea level. One of the larger of these upland areas, that on which Wick village is sited, is some four miles in length by two in breadth. An outlier on the north-east extends this upland nearly to Cowbridge.

As the map, fig. 1, shows, this patch of high ground determines the distribution of a series of round barrows to which reference has frequently been made in recent years.[1] The trend of the distribution is south-west to north-east; it begins on one of the highest parts of the coast in this region, that between Monknash and Marcross, and extends inland towards the Thaw valley at Cowbridge where there is a ford known to have been in use in prehistoric times. It is probable that the two barrows[2] on the high ground north of the Alun river system (c on the map) are to be regarded as part of the same colonization or colonizations, for the area is most easily reached across the low watershed above the source of the Stembridge Brook. This a broken line on the map illustrates.

The Lias limestone, though it produces a clayey soil very sticky in wet weather, is on the whole well drained; in the Coity region, north-east of Bridgend, it carried, as H. A. Hyde has determined, ash, not oak forest.[3] The soil and subsoil varies in thickness, being generally shallower on the more salient features of the ground than in the hollows; on the crest where the barrow with which this paper deals is sited, the rock is consistently within a foot or two of the surface. 'The deeper the soil-cover the denser the natural vegetation' may be taken as roughly correct; this seems sufficient to account for the close correspondence between elevation and barrow distribution in the region.

W. F. Grimes showed in 1938[4] that the Breach Farm barrow (one of the group of four marked b on the map) contained deposits of the Middle Bronze

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[1] Aileen Fox in *Archaeologia Cambrensis* (1936), Map II and p. 110; W. F. Grimes in *Proceedings Prehistoric Society* (1938), p. 107 and fig. 1; Cyril Fox in *Archaeologia*, vol. lxxxvii (1937), p. 161, fig. 7.

[2] One of these is of the Late Bronze Age. *Proc. Soc. Antiq.*, 2 ser., vol. 11, pp. 430-8, and *Arch. Camb.*, 1941, pp. 185-92.

[3] *Archaeologia*, vol. lxxxvii (1937), p. 176, footnote.

[4] *Proc. Prehist. Soc.* (1938), pp. 107-21.

Age A[1] representing a powerful cultural influence from Brittany, coming either direct from the continent or via Wessex across the Bristol Channel. The impression gained by the geographical distribution—that the settlements which the barrows illustrate are of oversea or over-estuary derivation—thus received strong support, and there is little doubt that in Bronze Age times such little combes as those at Monknash, Marcross, and St. Donats opened into convenient landing-places—estuaries or beaches.[2] (We can be certain that this was so in the case of the slightly larger Colhugh river at Llantwit Major.) By any one or all of these, colonists may have gained entry into the district under review.

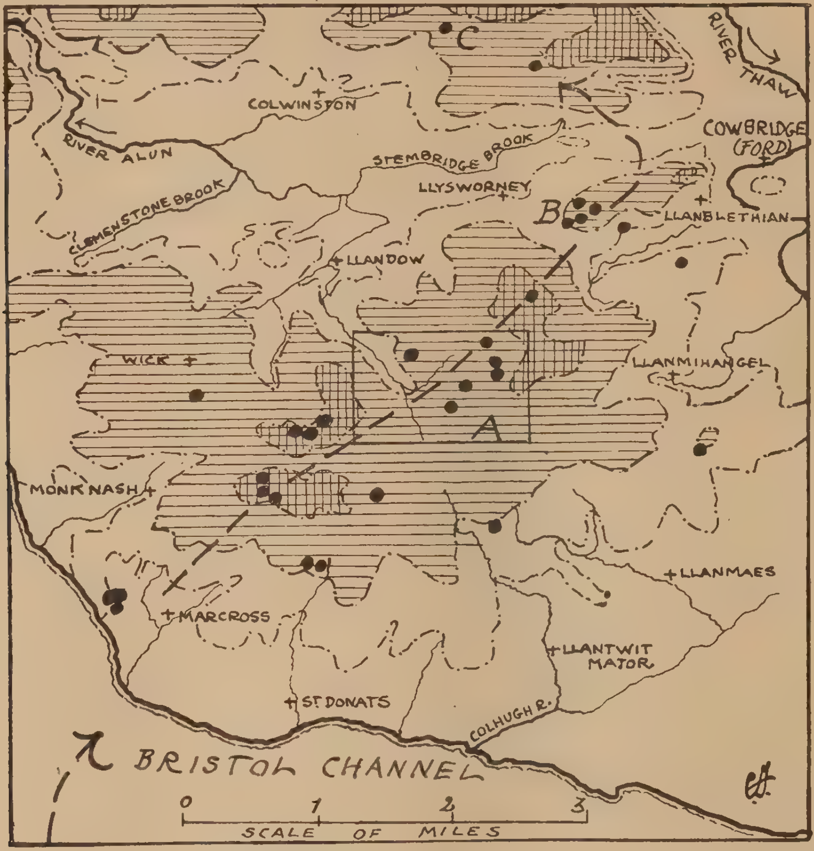

Fig. 1. Map of the distribution of barrows in the district west of the lower Thaw valley. Contoured at 200, 250, and 300 ft.

The barrow called 'Sutton 268′' from (*a*) the nearest farm, and (*b*) its height in feet above sea level, was excavated in 1940. It is the most westerly of a group of six lying below the 300-ft. contour in the northern part of the plateau; these are enclosed in the rectangle marked A on the map, fig. 1. Sutton 268′ is at the southern margin of a level flat from which the view to the north is very extensive across the valley formed by brooks and rills tributary to the river Alun; to the east, south, and west the higher ground of the plateau itself forms the skyline of a somewhat featureless countryside. The middle distance is occupied by a shallow basin-like area, the lowest part of which forms an extensive marshy flat, fed by numerous springs; the sluggish outflow turns north-west through a narrow gap in the rim of the basin to join the Stembridge brook (running into the Alun) near Llandow village.

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[1] I use the nomenclature of the *Handbook* issued for the First International Congress of Prehistoric and Protohistoric Sciences: Oxford, 1932, p. 32.

[2] On this point see Dr. F. J. North, *The Evolution of the Bristol Channel* (Cardiff, 1929), especially pp. 63–7.

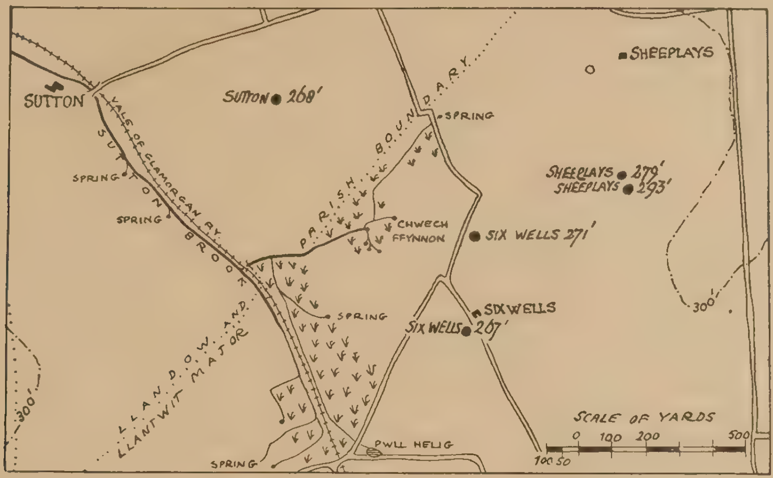

Fig. 2. Map of the barrow group to which Sutton 268′ belongs
After *Antiq. Journ.*, xxi, p. 98

Fig. 2 shows the rectangle A on fig. 1 enclosing Sutton 268′ and its neighbouring barrows, much enlarged. Sufficient modern detail—roads, railway, parish boundary, and farms—is inserted to indicate the exact position of these barrows, but the chief feature of interest on the map is the marshy flat. Prior to nineteenth-century cultivation and drainage, and the improvement of the outfall past Sutton consequent on the building of the railway, it was probably more extensive, for the modern road from Pwll Helig northward to the S of Six Wells is flooded in wet weather.[1] It is to-day a well-known haunt of wildfowl, and its economic importance in antiquity may have determined the position of the Bronze Age settlements whose burial-places lie in a half-circle around it.

An important point arises here. The position of many of the barrows in fig. 1 on crests and ridges—skyline sites as viewed from lower ground—makes it possible to argue that the Bronze Age settlements, like the modern villages, were, for the most part, marginal to the upland. But such a conclusion is not possible with regard to the barrows in our group; they are all on the edge of, or on, the inner slope of the basin, and can only be related to settlement in their immediate neighbourhood.

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[1] As seen in January 1940.—C. F.

This does not exclude the possibility that the distribution may represent the social, communal, and religious centre of family groups, predominantly pastoral, and in this manner occupying an extensive area of the Vale of Glamorgan. This would explain the rarity of round barrows in the Vale east of the Thaw valley; a countryside equally suitable for early man's occupation, since there is in it an important group of chambered cairns of which Tinkinswood is the best known. It should be noted that our folk chose for their area of primary occupation a district in the Vale in which there is no evidence of settlement by the megalith builders.[1]

Of the six barrows on fig. 2 referred to on the previous page, three in addition to Sutton were excavated in 1939-40, and the results obtained have been borne in mind in preparing this paper. These are Sheeplays 279′ and 293′, and Six Wells 267′. All showed stake-circles in turf barrows, and one (293′) was dated to Middle Bronze Age B, *c.* 1300 B.C., by a primary cremation interment in a developed overhanging-rim urn.[2]

Description

Sutton 268′ is a symmetrical mound of moderate elevation (+2 ft. 9 in.) so evenly ploughed down that the point of intersection of the cross-trenches, fixed by eye, was found almost to coincide with the true centre of the structure. Pl. XXXII, *a* illustrates an early stage in its investigation, pl. XXXII, *b* a later stage.

The barrow was elaborate in design and in development; the accompanying Plan and Sections (pls. XLIV and XLV, published by permission of the National Museum of Wales) are therefore necessarily complex and detailed. It is hoped that they provide in themselves a fairly adequate record, which this account is intended to elucidate and where necessary amplify; it is as brief as possible.

My colleagues, Mr. L. F. Cowley, Mr. H. A. Hyde, and Dr. F. J. North, have studied the skeletal remains, the charcoals, and the structural material of the barrow, respectively; their valuable results are incorporated in the text, and their Reports printed as Appendixes. The assistance rendered in the field by my wife, and by the late Mr. F. G. Gay in the laboratory, are gratefully acknowledged. Dr. H. N. Savory placed at my disposal his wide knowledge of the relevant foreign literature. Miss L. F. Chitty, F.S.A., has provided me with useful references. The finds have been deposited in the National Museum of Wales by the owners.

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[1] Aileen Fox, *loc. cit.*, Maps I and II.

[2] 'Stake-circles in Turf Barrows: a record of excavation in Glamorgan', *Antiq. Journ.* (1941), pp. 97–127. (*Note.* Since this paper was written, a fifth barrow, Six Wells 271′, has been excavated, and published in *Antiquity* (1941), pp. 142–61.)

The central area of the barrow was composed of mixed soil in which little or no stratification could be detected; 'built up', as Dr. North reports, 'by the indiscriminate dumping of the products of excavation and surface-skimming' (Appendix V, p. 122). There was a small patch of hard-pan (a consolidated iron-stained surface, see p. 124) at a depth of 1 ft. 3 in., and charcoal patches, some consisting of fragments of tree branches (Appendix IV, p. 118, no. 8), others tenuous and finely comminuted, were seen at various levels. A secondary cremation, x on Plan, was found at a depth of 1 ft. 10 in.; the burnt bone was negligible in quantity.

At the centre there was a large U-shaped cairn, mainly composed of small lias stones in a soil matrix, but with a prominent mass of slabs[1] at the base of the U, on the inner side of the curve (pl. XXXIII, *a*). The slabs, and a larger stone below them, were found to have been placed over a cremation burial (A) which was on the original ground level. In the centre of the mass of burnt bones (22 in. by 9 in.) was a pigmy cup (pls. XXXII, *c* and XL, *a*) empty and inverted, and near the margin a bronze knife, without central rib or side grooves, in an advanced state of decay, but originally some 3 in. in length (pl. XLII, *a*). A fractured bone bead (pl. XLII, *a*) was also found among the burnt bones. There was a spread of charcoal (30 in. by 30 in.) under and around the deposit. The covering slabs referred to were well above the level of the cairn, and overlaid earth, not cairn stones. Mr. Cowley reports that the burnt bones are those of a male over eighteen years of age (Appendix III, p. 116).

At the foot of the inner slope of the eastern horn of the cairn was an inhumation; the skull and part of the skeleton were recovered, being those of a child about eleven years old. Unburnt human bones of this skeleton merged into the margin of the cremation A deposit (Appendix III, p. 116). A chance find in the same horn of the cairn was the jaw of a sheep.

Close to the tip of the western horn of the cairn, on the inner side, was a cremation burial (B). The burnt bones were in an inverted overhanging-rim urn (pl. XL, *b*), partially sunk below the original ground surface. The bones were those of a woman with a large foetus or newly born infant. Overlying the urn were three flint flakes (p. 113).

On removing the cairn it was seen that its stony mass continued below ground level (pl. XXXIII, *b*), and further excavation disclosed a rock-cut pit of unusual dimensions, measuring 12 ft. 5 in. by 9 ft. 10 in. and 2 ft. 3 in. deep (see Plan and Sections). The margins of this pit had been re-packed with the quarried blocks of Lias (interlocked with the stones of the cairn above) enveloped in the yellow clayey subsoil and shaly clay which had also been excavated; but the central area of the pit, which was between the horns of the cairn, was filled with surface soil –a striking contrast. This soil contained flecks of charcoal and occasional Lias nodules. On the floor of the pit the soil-area was seen to be bounded on either side by a line of the above-mentioned quarried blocks; we were evidently isolating an inhumation burial (pl. XXXIV, *a*).

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[1] The most northerly of these, shown in a Section but not on the Plan, was an insertion of the Ordnance surveyors, being incised with a broad arrow.

The dead person, a male in the prime of life, of round-headed (Alpine) type (p. 114), lay flexed on the left side; carefully and closely packed around his head were sherds of pottery, to one of which a flint arrow-head was adherent. Two other arrow-heads (and half a flint scraper) lay in the soil near the arms and four beyond the feet. There was evidence that the arrow-shafts had been broken before deposition (p. 111). The quarried blocks formed a frame or cist, which was parallel-sided, 8 ft. in length and 2 ft. broad internally. The upper end where the head of the skeleton lay was rounded, the lower end was closed by small pebbles only.[1] The skeleton occupied less than half of the length of the cist, but the contracted body had been compressed with difficulty into its breadth. Pls. XXXIV, *b* and XXXV, *a*, as well as the Plan, illustrate this burial; the reconstructed pot—a beaker—is seen on pl. XXXIX, *a* and the arrow-heads on pl. XLI, *a*. Detailed descriptions of the finds, as of all others, will be found in Appendix II.

Clearance of the central area around the cairn disclosed a ring of stones, some loose, others earthfast (pl. XXXIII, *b*). Investigation of the latter led to the discovery of a rock-cut ditch (see Plan and Sections) which completely encircled the cairn. Like the cairn it was oval, its *inner* diameter varying from 21 ft. 10 in. to 26 ft. 3 in. Bedding planes of the Lias formed the floor of the ditch, and as there was an eastward dip in the strata, the ditch was deepest (*c.* 2 ft.) along the north to south line, showing step-ups (to the next bedding plane) of nearly a foot. It was vertical-sided, and its breadth on the floor varied from 3½ to 5½ ft. The earthfast slabs referred to were seen to be leaning against the inner edge of the rock-wall of the ditch; at some other points on the circle small slabby stones formed, with a matrix of clayey soil, a similar tilted stony margin. These aspects are illustrated in pls. XXXV, *b*; XXXVI, *a* and *b*.

As in the central grave-pit, much quarried material and clayey soil was reused in the ditch to sustain, as it were, the marginal slabs. At two points (see

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[1] The resemblance to the gunwale plan of a stern-board canoe (*Antiq. Journ.* (1926), p. 135, fig. 6, Brigg) was noted at the time. The small round stones occupied the position of the stern-board. Compare the boat-shaped grave at Frocester, Glos., excavated by Mrs. E. M. Clifford (*Proc. Prehist. Soc.* (1938), pp. 214–17). It is of the same period as ours. Cf. L. V. Grinsell, *Antiquity* (1941), pp. 365–6.

Plan) there was a carefully placed layer of weathered (not freshly quarried) Lias stones which filled it up to ground level and formed causeways across it.

On the northern side of the ditch a similar filling of quarried stone and clayey soil was found, in places occupying the whole hollow; but here there were no tilted slabs defining the inner margin. In their place masses of small stone, mostly weathered Lias, filled the ditch (where it was not already filled), rose above it, and extended both outwards and inwards. The inward extension was limited, but interesting stratigraphically; the stones overlay earth, above the original ground level, as is clearly shown in pl. xxxiii, *b*.

The outward extensions covered a large area (see Plan, and pl. xxxii, *b*). Our excavation showed that prior to their deposition the whole of the soil and subsoil had in places been removed, the rock floor being exposed. In the north trench the replacement material—stone—was set in a loose matrix of charcoal-impregnated soil (Section R–R′). Hereabouts four burials by cremation were found, the most important of which was cremation C. Under a series of slabs (see Plan and Section) disposed in the same manner as in the case of cremation A in the cairn, was an inverted overhanging-rim urn. Its base was near the original ground level, its rim on the rock floor; it had thus been placed in a shallow hole (pl. xxxvii, *a* and fig. 3). Around it was a layer of charcoal, on the northern edge of which lay a flint arrow-head (pl. xli, *a*). Among the burnt bones in the urn, which were those of a child under seven, were a ridged flint 'knife' (pl. xli, *b*) and a tongue-shaped piece of smooth bone (pl. xlii, *a*).

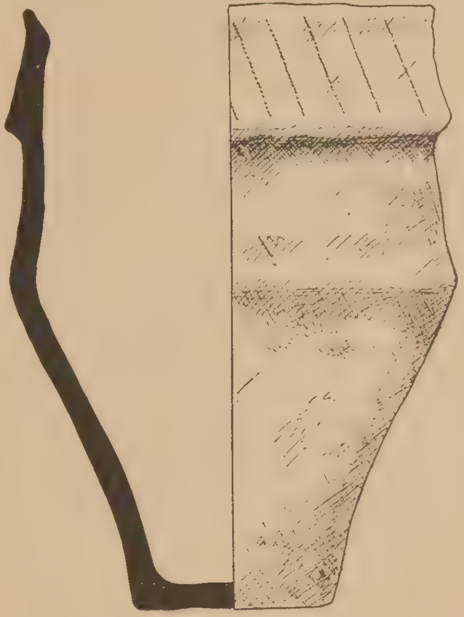

Fig. 3. Cremation C. Probable form and size of crushed urn ($\frac{1}{3}$)

In the neighbourhood of this cremation were three others, D, E, and F; they each consisted of a mass of charcoal and burnt bones, set in hollows between the stones, without urns or grave-goods. It was noticed that the charcoal in D was put in hot, for it reddened the soil and cracked an adjacent slab; in the 2 in. of soil under the deposit were several teeth of the upper jaw of a pig. Cremations E and F show similar but less pronounced reddening. These three burials proved, like C, to be of children; one was twelve years or under, one under seven years, the third indeterminate. An adult human skull placed close to cremation E completes the series of interments in this part of the barrow.

Overlying all these deposits, structural and burial, was an iron-impregnated turfy soil, stained orange and black with iron oxides, and with patches of grey clay; resembling the turf barrows of Sheeplays 293′, Pond Cairn, and other burial mounds on the Glamorgan seaplain. In or immediately under this turf and clay at Sutton 268′ was an unbroken layer of hard-pan. This is an iron concretionary deposit that may develop within soil at a level where there is a change in the 'relative permeability of the material from more porous above to less porous below'.[1] Trampling is an obvious (and the most likely) means whereby permeability may have been locally reduced; and in the present case we may conclude that the addition to the beaker barrow was thrown up in two stages, and that what was the surface at the end of the first stage was rendered compact (by trampling) before the remainder of the material was placed on top of it. The hard-pan, of course, developed by slow degrees on the plane of the trampled surface subsequently to the completion of the barrow. Dr. North, summarizing the character of the secondary barrow material, remarks that while the structure was built principally of turf, the builders made no attempt to discard the deeper (non-turfy) layers of what they excavated (p. 124).

The hard-pan layer already referred to sloped upwards and inwards, fading out on the margin of the central portion of the barrow (which, as we have seen, was composed of mixed soil). Its inner edge thus overlay the rock-cut ditch and the stony mass which in places defined it, at from 1 ft. 2 in. to 2 ft. 1 in. above the original ground level (pl. XXXVII, *b* and Plan). Its outer limits may now be considered. Descending to original ground level, it faded out as the limits of the barrow were approached. It should be added that while on the north side where the cremations were, the hard-pan floor formed a high-level flat (see Section R–R′), on the other sides it faded out when it reached its crest. This high-level flat was examined for stake-holes in the north-eastern quadrant of the barrow; several were found, of various sizes up to 6 in. in diameter; three were sectioned and found to be 8 in. deep. They seemed to form part of a circle, but in detail no orderly pattern could be demonstrated. One was detected on the edge of the hard-pan in the south-eastern quadrant; the other half of the barrow was not searched. All these features are shown in the Plan and Sections.

The margin of the barrow was easily determined. It was marked by a dry-stone wall of Lias in places still 11 to 12 in. in height, and of from one to four courses; a packing of stones large and small designed to absorb the thrust of the earth-mound on this frail wall extended inwards and upwards for some 3 ft.; externally, moreover, a tightly packed rammed mass of small stone masked, in places, the face of the wall (see pls. XXXII, *a* and *b*, XXXVIII, and the Plan and

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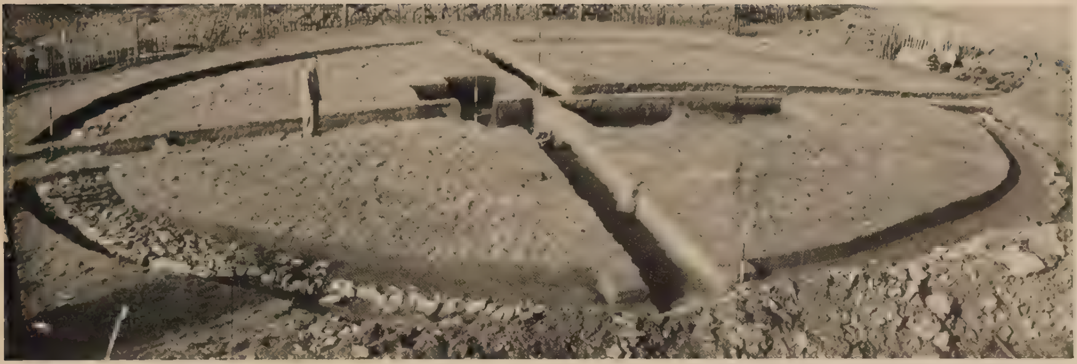
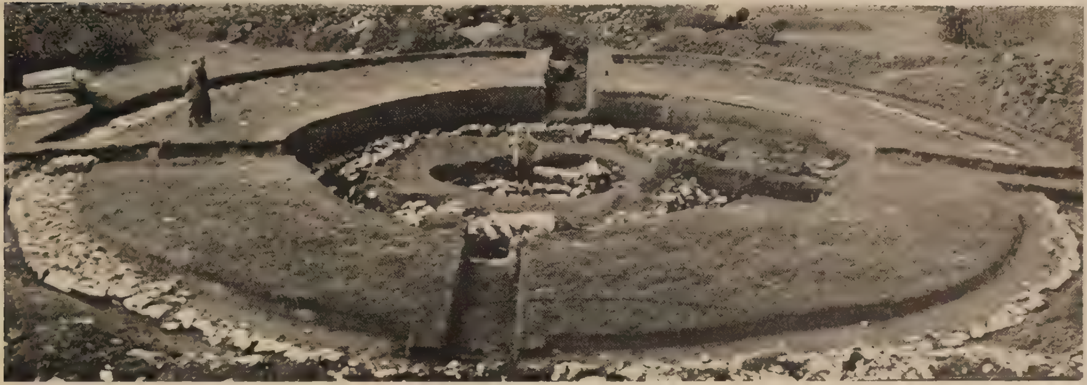
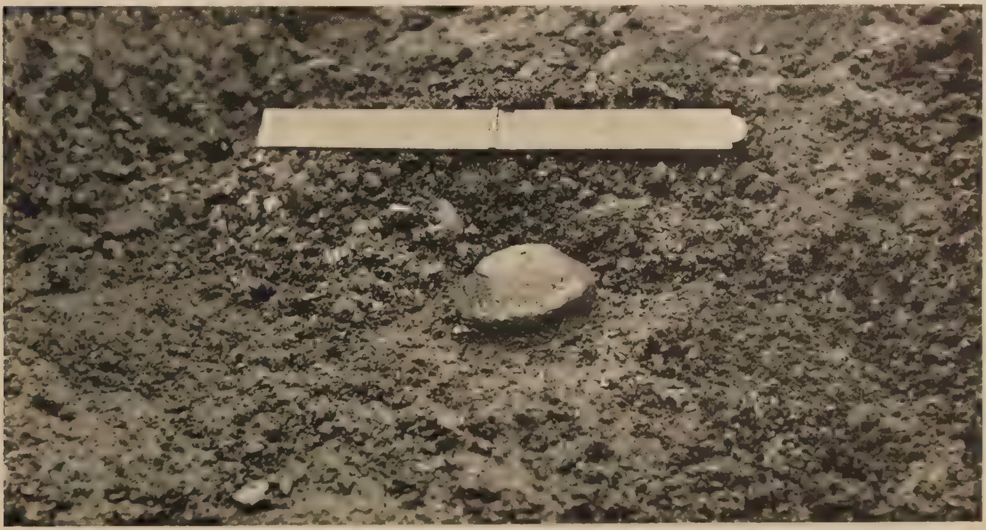
[1] *Inf.* my colleague, Dr. F. J. North, who has been most helpful in working out this problem. See his Report, Appendix V, pp. 124–5.



a. The first phase of the excavation; the barrow defined



b. The last phase; the centre of the barrow cleared, showing grave-pit and rock-cut ditch as well as the revetment wall



c. Cremation burial A, with pigmy cup

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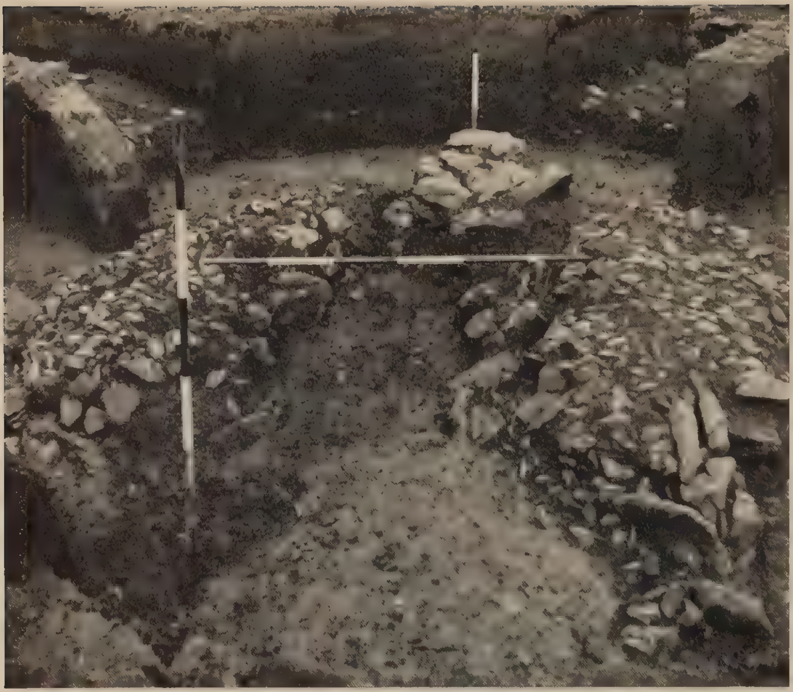
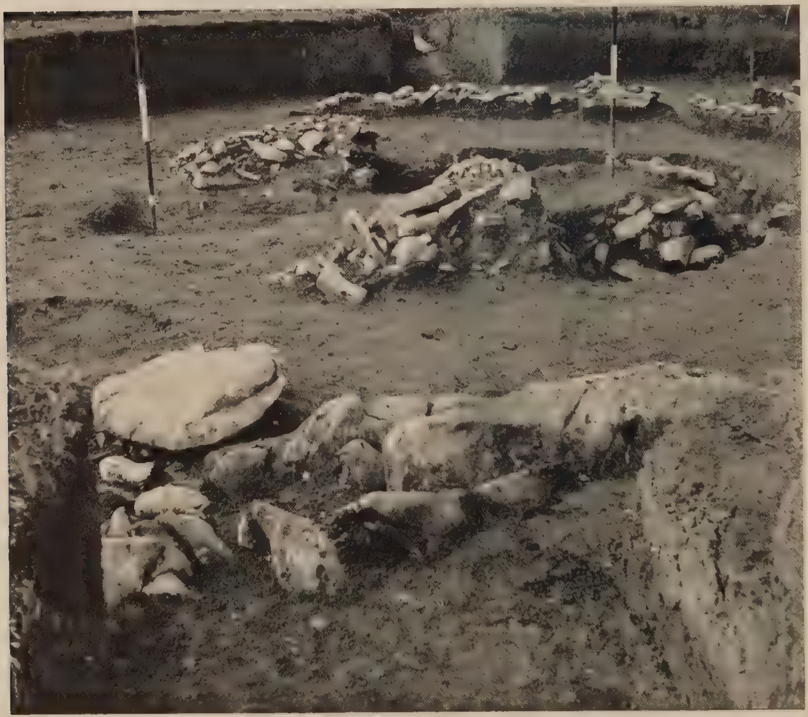


a. The central (U-shaped) cairn, showing inserted pile of slabs at the base of the 'U'



b. The cairn partly cleared; the grave-pit visible, and the central area cleared to ground-level. The sites of the cremations A (right) and B (left) are shown by ranging-poles; the earth-rim of the primary barrow is seen beyond the cairn, and in the foreground are tilted slabs marginal to this barrow

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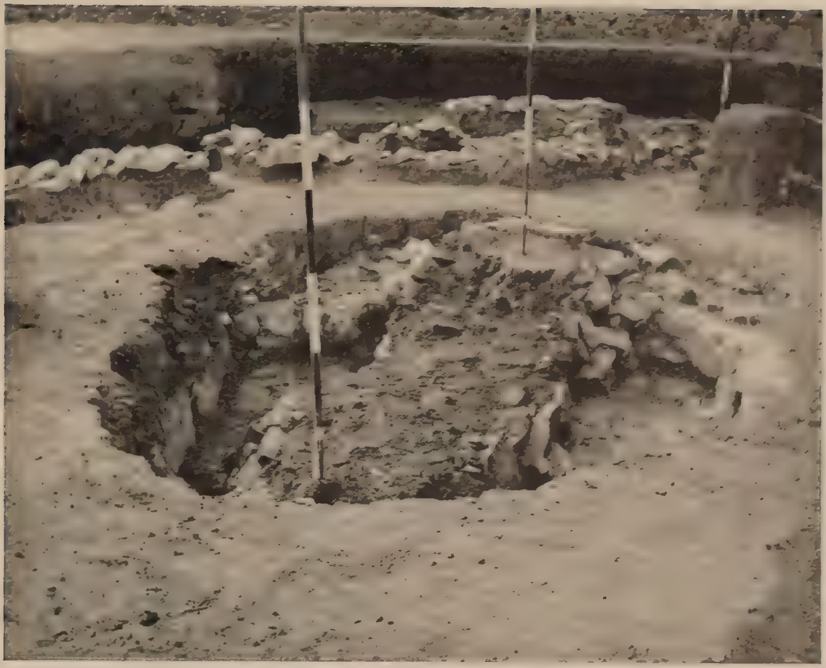
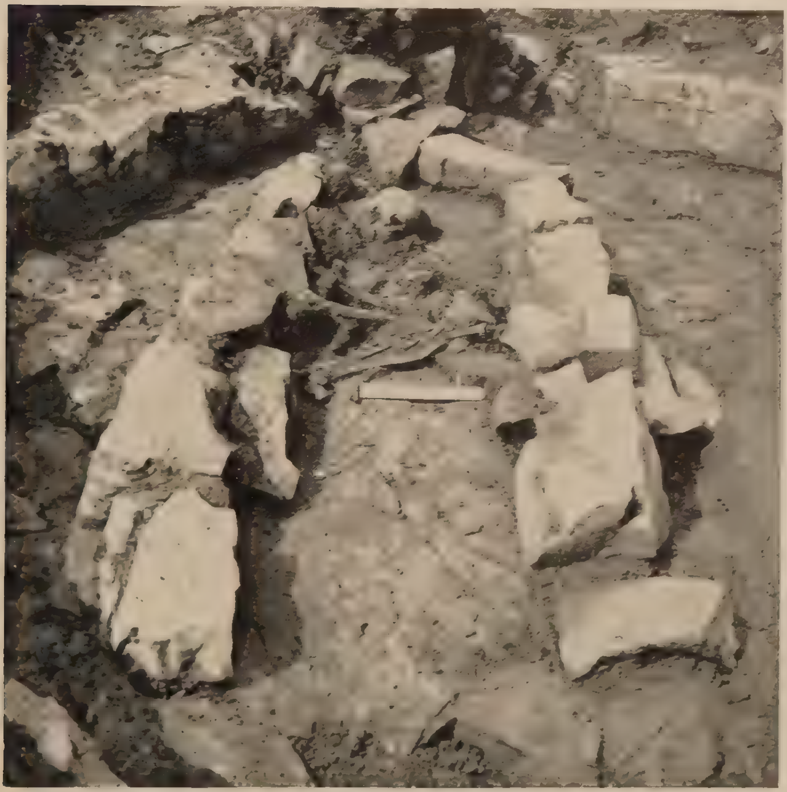


a. The rock-cut pit cleared, disclosing a grave defined by quarried blocks and packed with earth



b. The contracted skeleton in the grave: the white spots are sites of arrow-heads

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Sections). The diameters of the enlarged barrow were 73 ft. 6 in. (N.–S.) and and 69 ft. (E.–W.).

Mr. H. A. Hyde has examined many samples of charcoal from the barrow, including material from all the cremation deposits. He has identified 125 specimens, comprising not less than five species. These arranged in order of frequency are Hawthorn (84), Oak (27), *Prunus* sp. (10), Maple (3), and Lime (1). He notes that the 'preponderance of shrubby species is very marked' (Appendix IV, p. 118). This indicates extensive clearance, and a landscape including much rough and scrubby pasture may be envisaged.[1]

INTERPRETATION

(*a*) *The Beaker phase.* The preceding description has shown that Sutton 268′ contains an important burial in a large central grave-pit evidently primary, and many secondary deposits; we have now to consider what part of the excavations and constructions are to be associated with the former, and what with the latter; we are, in short, to justify the contrasting red and black in the Plan and Sections.

The U-shaped cairn of small stones is certainly original; constructionally it develops without a break from the floor of the grave-pit upwards. What of cremation A? Though it is accurately placed at the base of the U and on the earth-filling of the grave-pit approximately at ground level (see Section R–R′), several features prove it to be secondary. No close matrix of cairn-stones overlies the deposit of burnt bones; indeed the limits of the hole made in the cairn for its insertion can be seen in the photograph, pl. XXXIII, *a*. This photograph shows also that the slabs covering this burial are at a higher level than the cairn. Furthermore, we found lying on earth above the north-east slope of the cairn and beyond, a collection of small stones which was identified as the throw-out from the cairn. The highest-placed stone of this scatter was 18 in. below the present-day level of the barrow.

The circular rock-cut ditch is to be regarded as original. The earth-fast slabs and slabby stones at its inner edge (see Sections) are also certainly part of the original construction. Their very intermittency helps to prove this, for they are absent on the northern side of the ditch-circle where the most active later development took place; there is, indeed, little doubt that the slabs used in connexion with the cremation burials were curb-stones from this part of the structure.

What was the purpose of these curbs? The earth-base to the stony layer in pl. XXXIII, *b*, referred to on p. 95, shows that prior to the deposition of this layer there was a small earth-mound whose margin was the lip of the rock-cut ditch.[1] Hence the curbs formed a rim for this primary barrow. The barrow probably just covered the cairn, as the Sections indicate, and it is highly probable that the slabs covering cremation A were placed at the grass level. On the slope, then, of this barrow there lay the throw-out of stones referred to above. The *inner* side of the ditch was everywhere masked by slabs and filling, but only here and there is there any indication that its *outer* rock-face was covered up. I envisage (and the Sections illustrate) a barrow springing from some 2 ft. below ground having a stony slope up to ground level.

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[1] A conclusion which receives support from Mr. Hyde's analysis of the five deposits of charcoal in an adjacent barrow, Sheeplays 293′; all showed hawthorn only. *Antiq. Journ.*, xxi, pp. 126–7.

Lastly, reference has been made to the causeways of Lias stones across the ditch (pp. 94–5). On plan, these are symmetrically placed in relation to the two horns of the cairn, and they may be regarded as ceremonial 'bridges of access' to the area within the ditch, and are therefore pre-barrow, and to be associated with the ritual of the primary burial.

(*b*) *The Middle Bronze phases.* In this section we are concerned with the constructions printed in black on the Plan and Section. These are held to represent two main phases of activity; the first comprised two out of three burials inserted in the beaker barrow, the second burials outside the beaker barrow which were followed immediately by the enlargement of the structure.

Cremation A, representing the introduction of the pigmy cup culture, is the principal burial in the beaker barrow and the child's skeleton placed alongside and overlapping it is contemporary.

Cremation C, representing the introduction of the overhanging-rim urn culture, is the most important burial of the second phase; cremation D was closely interlocked with it and must have been absolutely contemporary. Moreover the removal of the natural soil (p. 95) and the heavy deposits of stones with charcoal, in the immediate neighbourhood of burials C and D, are works certainly contemporary with them.

It should be added that the double protective covering of cremation C is so similar to that of A (see Section) that, whatever may have been the interval of time, a single family group or *gens* was probably concerned in both burials.

The position of the hard-pan is significant in this connexion. It covered the whole of the stony mass on the north side except the flat slabs of cremation C which were exactly on its level (Section R–R′). Similarly, the margins of the hard-pan where it dies out on the central area, are at the same level as the top of the slabs of cremation A (a straight-edge suitably placed along Section R–R′ will demonstrate this point). Moreover, fine charcoal deposits lie on the slabs of cremation C, and extend from one burial to the other (allowing for the destruction of the surface where the Ordnance Survey slab was inserted). These features show that burial A was not ignored when the works following on burial C were carried out.

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[1] The only puzzling feature is that no change in the general soil character was apparent from top to bottom of the mound in the centre, and the red line in the Section which indicates the original height of the beaker barrow is based on collateral, not direct evidence.

The trampling implied by the hard-pan layer, then, was probably a ritual movement;[1] the group of stake-holes in one quadrant of the layer, on the margin of the central area, may fairly be held to represent a complete ring of such, and so to be connected with the same activity. Recent work on three other barrows of this group (Sheeplays 293′ and 279′ and Six Wells 267′) has shown that stake-circles associated with turf-mounds or turf-stacks are constant elements of the Middle Bronze Age culture of the area; and we cannot fail to see at Sutton 268′ the application of the same cultural ideas to the development of a pre-existing barrow.

It will be observed that the absence of evidence of trampling in the central area is due to the absence of the turf which elsewhere on the site has been concerned in the formation of hard-pan; we cannot affirm that the centre was untrodden. Indeed, the small patch of hard-pan[2] in the centre of the barrow (see Section s′–s) gives an opposite indication.

Turning to the outer limits of the hard-pan (and the turf mound) it is to be noted that the trampled area extends at one point at least so close to the dry-stone wall (see Plan) as to suggest that at this stage the limits of the enlarged barrow were marked out; a good thickness of turf is needed to provide the ferric concretion, and experience in other barrows shows that this tends to fade out on the thin edges of the mound.

We have now to consider when the remaining secondaries were inserted. Cremations E and F are covered with the hard-pan which here as elsewhere forms an unbroken layer; they are therefore approximately contemporary with cremation C. Unless one is prepared to admit the likelihood of a number of youngsters of an important family dying in quick succession, they must with cremation D be, I think, regarded as sacrificial deposits connected with cremation C, as being the most important in the area. Thus four children were selected to accompany the noble child to the other world.

I cannot offer any explanation of the inhumed skull of an adult (p. 95), unaccompanied by any long bones, near cremation E; but it was under the hard-pan, and therefore contemporary.

Cremation B alone remains; for its relationships there is no stratigraphical evidence; the only evidence then available to us is typological (see p. 108).

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[1] See *Archaeologia*, lxxxvii, 157, where a ritual dance in the course of the construction of a Middle Bronze Age cairn is envisaged.

[2] Some turf must have been placed here.

After the burials had been completed, and the new turf slopes trampled, the dry-stone wall was taken in hand, and the new barrow raised in height. Turf in places of some thickness still survives above the hard-pan slopes (see Sections), and we may assume that the structure, now heavily reduced by cultivation, was originally not less than 7–8 ft. in height at the centre. It was composed, then, of turf over the hard-pan, of soil in the centre[1] (apart from the small patch of hard-pan).

Soil was used not only for the centre of the barrow, but as a foundation on which the stone packing behind the dry-stone wall-facing was built up.

The Sections suggest that the packing did not extend farther up the slope of the barrow than it does to-day; as for the dry-walling, a careful measurement of the angle of the undisturbed slope of the small-stone mass which masks it on the south side suggested that it was originally about 18 in. in height.

Cultural and Chronological Analysis

(*a*) *The Beaker phase.* Most of the features of the Beaker burial and its attendant constructions are elsewhere on record, but seldom is the known setting of such an interment so spacious, so dignified, so monumental. The unusual size of the grave-pit, enabling many persons to be associated with the last rites, is particularly notable.[2] The disparity between the space occupied by the contracted body and the size of the cist has been noted in burials of the period in northern Britain.[3]

The ditch too is interesting. Though not interrupted, it had two 'bridges' or causeways, on opposite sides. Now at Fargo Plantation near Stonehenge[4] a beaker burial is recorded in a grave, surrounded by a ditch with two broad entrances on opposite sides; an expression in miniature of the same idea as is illustrated in Thornborough Rings and other similar works. Sutton 268′ may represent the same notion in a debased form.

The variety of type of arrow-heads found with the beaker skeleton at Sutton 268′ is curious, but all the types have previously been recorded with beaker burials.[1] Features of the burial for which no parallel has yet been found are the breaking of a beaker and the careful packing of its sherds round the skull; and the form of the cairn. It is tempting to regard the U-shaped cairn as a survival of a most important part—the forecourt—of a long cairn of Cotswold type. But it has already been noted that this cairn was an above-ground expression of a design inaugurated over 2 ft. below ground: for the flanks and one end of the pit were filled with stone, the centre with earth. Until and unless a primary Neolithic burial is found below the forecourt of a horned cairn in Britain, we must regard Sutton 268′ as providing a type of cairn without known precursors in these islands.

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[1] See footnote 1 on p. 98 with reference to the soil composing the centre of the barrow.

[2] A large grave-pit containing an inhumation burial, surmounted by a cairn which almost exactly covered the pit, and surrounded by a circular ditch enclosing an area 30 ft. in diameter were the chief features in a barrow at Ysceifiog, Flintshire, excavated in 1925 (Fox, *Arch. Camb.* (1926), pp. 48–80). Deeper pits are not uncommon, as at Rudstone (Greenwell, *British Barrows*, lxviii, 263) and Cawthorn, Yorks. (Thurnam, *Arch.*, xliii, 319, fig. 8), but I can find none so large in area. Such constructions appear to be mainly of the beaker period; a discussion of the subject, with references to the literature, will be found on pp. 60–4 of the Ysceifiog paper cited above.

[3] Greenwell, *British Barrows*, pp. 22–3.

[4] Dr. F. S. Stone, in *Wilts. Arch. Mag.*, vol. 48, pp. 357–70. I owe this reference to Miss L. F. Chitty, F.S.A.

The significance of the burial is heightened by the beaker which accompanied it. When the sherds were cleaned and hardened, they were found to represent a complete vessel[2] 6·5 in. in height, the paste brownish-red externally with a black core. As pl. XXXIX, *a* shows, there is a well-marked cordon at the rim, with deeply impressed diagonal hyphenated ornament thereon. Below are two zones of hyphenated ornament, each consisting of six horizontal lines, and one series of diagonals centrally placed. The craftsmanship is poor and careless.

The Sutton beaker is definitely of the B class in form (which accords with its poverty in decoration), and is here placed in the B 1 group. This group has not been thoroughly worked out, and the attribution must therefore be considered in detail. I suggest that there are two distinct sub-types of B 1 beakers—a sub-type which I shall call α with rounded body, a sub-type β with angular body (pl. XLII, *b*, nos. 1 and 2).[3] Sutton 268′ belongs to the angular class, B 1 (β); an almost identical beaker was found in a cist in the Olchon valley, Herefordshire, with a flint arrow-head resembling no. 5 in my series.[4] Another example from the Welsh borderlands, a beaker from Penderyn, Ystradfellte, Breconshire,[5] is here illustrated alongside Sutton 268′ (pl. XXXIX, *b*), for it helps us to understand the nature of the evolution—or degradation—which the sub-type suffered. Other intermediate forms are not difficult to find in the Wessex area in which B 1 beakers normally occur, and examples from Michelmersh, Hants, Cholsey and

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[1] R. A. Smith, 'Flint Arrow-heads in Britain', *Arch.*, lxxvi, esp. pp. 92–7, figs. 16–25.

[2] The rebuilt beaker shows some plaster. This is because the correct position of many small fragments could not be ascertained.

[3] It should be noted that these contrasted types are present in the Spanish series of bell-beakers. See, e.g., Bosch Gimpera, *Relations préhistoriques entre l'Irlande et l'Ouest de la Péninsule ibérique*; Préhistoire, Tome II (1933), figs. 13 and 18, and, as Mr. Stuart Piggott reminds me, in Holland—Bursch, *Die Becherkulturen in den Niederlanden, passim.* See also V. Gordon Childe, *Dawn of European Civilization,* 2nd ed., fig. 107, 3, 4.

[4] G. Marshall, *Trans. Woolhope Club* (1930–2), 147–53; a second beaker from an adjacent cist also had a grooved collar at the rim.

[5] Previously figured, but on a very reduced scale, in Grimes, *Guide to the Collection illustrating the Prehistory of Wales*, Nat. Mus. Wales, fig. 73, no. 9.

Sutton Courtenay, Berks., have been selected. Two of these are figured, pl. XLII, *b*, nos. 3 and 4. Thus we may formulate the following scheme, which is illustrated geographically in fig. 4:

I
West Kennet Avenue, Wilts. B 1 (β) sub-type.
No. 27 in Piggott's List.[1] *Antiquity*, x, fig. 3, 2, p. 423.

II
Cholsey, Berks. B 1 (β) sub-type.
No. 1 in Piggott's List. Outline less definite than above. *Oxoniensia*, iii, pl. iii, G.

III
Broom Hill, Michelmersh, Hants. Angle of body becomes higher.
No. 11 in Piggott's List. *Antiq. Journ.*, xiv (1934), pl. XXIV, p. 251.

IV a
Penderyn, Breck. Form similar to III.
Cordon on rim.

IV b
Sutton Courtenay, Berks. Form similar to III.
Cordon on rim. *Antiq. Journ.*, xiv, pl. XXX, i, pp. 266–7.

V
Olchon Valley, Hereford. Similar to Sutton 268′.
Trans. Woolhope Club (1930–2), fig., p. 149.

V
Sutton 268′, Llandow, Glam. Cordon on rim,
coarser workmanship than any of the above.

Note. The Llansilin beaker (Ellis Davies, *Prehistoric and Roman Remains of Denbighshire*, p. 360 and fig. 124) shows this beaker tradition (in form, though not in decoration) extending farther up the Welsh Marches than Hereford. And since this paper was written, a beaker similar to Sutton 268′ from a barrow at Talbenny, Pembrokeshire, has been acquired by the National Museum of Wales. It also is recorded on the map, fig. 4.

The whole of this series of B 1 beakers has similar ornament-bands of hyphenated diagonals, sometimes crossed, separated by horizontal lines: except Sutton Courtenay which has horizontal lines only. The evolutionary process is a reduction of the flare of the rim, the emphasis on this part of the beaker being retained by means of a cordon; weakening and raising of the body-angle; and coarsening of paste and decoration.

Rim cordons are frequent in Rhineland beakers but are not a common feature of beakers in this country.[2] It is to be noted that the cordon development seems to be foreshadowed in the pure B 1 (β) sub-type; as pl. XLII, *b*, 2, shows, the rim of the West Kennet beaker shows decoration differing from that of the rest of the vessel, and easily translated into a moulding. On the other hand it is possible that a close-ridged and manifestly early variant of the food-vessel type of pottery was here the source of the rim cordon. An example from the same grave as an A beaker and probably contemporary, in Fargo Plantation near Stonehenge, had these ridges accentuated by incisions, and provides an unexpectedly close parallel to our beakers, from the centre of the B1 bell-beaker area.[1] Again, Leeds figures ribbed ware from the neighbourhood of the Sutton Courtenay beaker.[2] Whether such ware, or food-vessels, or Rhineland beakers are the source of our B1 rim cordons, I suggest that the region of contact and of borrowing is very likely to have been the upper Thames valley—a marginal area. For there is no reason to suppose, in the face of the Sutton Courtenay example, that the evolution took place in south Wales; we may indeed conclude on the evidence we at present possess—i.e. the absence of early forms—that the

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[1] 'List of B beakers in Wessex', *Proc. Prehist. Soc.* (1938), pp. 96-7.

[2] See, e.g., *Urgeschichte von Starkenburg* (Behn, 1936), Taf. 12 (c): and Bodenurkunden aus Rheinhessen: *Die Vorrömische Zeit* (Behrens, 1927), p. 18, Taf. 58 (from Nierstein, Mainz). Cf. also examples from Worms and Frankenthal: del Castillo, *La Cultura del vaso campaniforme* (1928), CLXXXII, 5, and CLXXXVI, 4. As for English examples there is one from Stone Point, Walton, Essex, *Proc. Prehist. Soc.* (1936), p. 189, fig. 3, 1; another from Brighton (*Arch.*, lxxvi, fig. 17, p. 93); the latter recorded as B 2 by Piggott (*Proc. Prehist. Soc.* (1938), p. 56), who remarks that B 2 unlike B 1 sometimes has plastic ornament such as a cordon beneath the rim. But I cannot accept this in face of the evidence presented above. Mr. Piggott kindly comments on this: 'I expressed myself badly when writing about that cordon-under-the-rim feature. What I meant to say was that it seemed to me that it was a characteristic of the Rhenish and Dutch beakers as opposed to the Breton group, rather than that it characterized B 2 only. There are, of course, very good B 1 beakers in Holland, but I think they picked up the trick of wearing collars from the Dutchmen.'

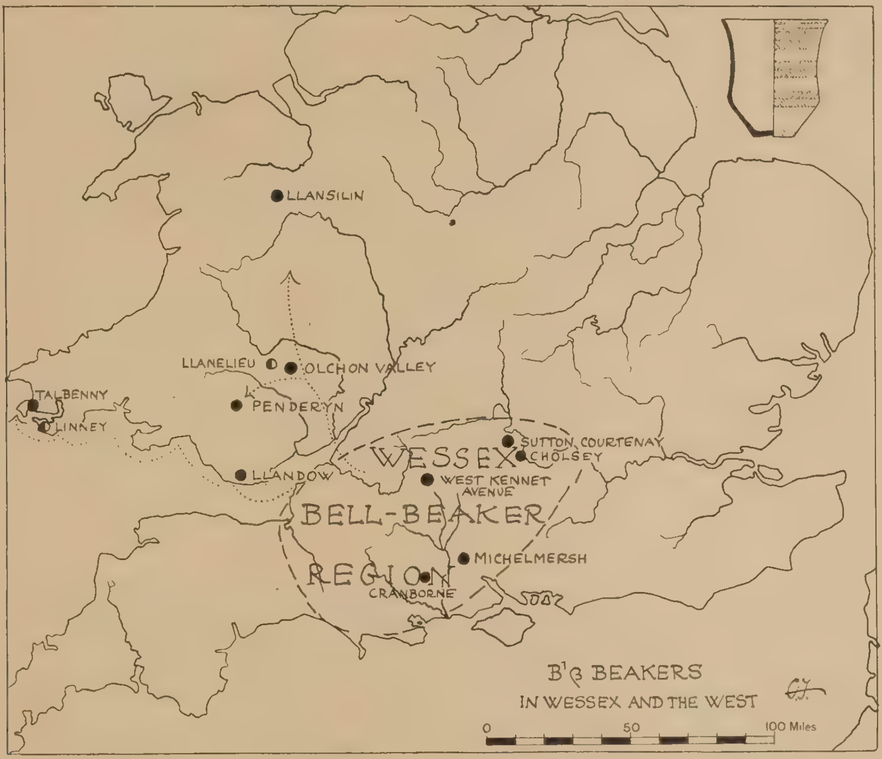

Fig. 4. Beakers: map showing distribution of B 1 (β) sub-type

expansion of the bell-beaker folk across the estuary of the Severn was late in their history.[1] They were, I hold, preceded by the A beaker folk. What date, then, are we to assign to Sutton 268′?

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[1] *Wilts. Arch. Mag.*, vol. 48, p. 363, pl. iii.

[2] *Antiq. Journ.*, xiv (1934), pl. xxix, p. 265. This section owes much to Mr. Leeds's paper on beakers of the Upper Thames district, *Oxoniensia*, iii (1938).

Very little study has been given to the length of time during which the beaker culture flourished in Britain. The beaker is one of the commonest of our prehistoric pot-forms; and yet 200 years for A beakers (*c.* 1800–1600 B.C.) and rather more for the B groups since they reached Britain earlier, is generally regarded as sufficient. Leeds, however, discussing a beaker from Cassington, Oxon., in 1934, suggests that its date is 1500 B.C. or later,[2] and I am inclined to regard 1500 B.C. as not unreasonable for debased examples, especially on the periphery of the beaker civilization.

I therefore date the primary burial and barrow of Sutton 268′ not later than 1500 B.C. (and not much earlier).

(*b*) *The Middle Bronze phases.* The pigmy cup burial, cremation A, associated with a flat bronze knife, is representative of the Middle Bronze A culture, largely exotic, centred in Wessex, the accepted dates for which are 1700–1400 B.C.[3]

The knife, as we have seen, is small (3 in.) and flat; such tools are frequently associated in this culture with the larger grooved dagger[4] and, as Piggott remarks, the flat dagger grew smaller as the grooved type came into fashion. The knife then provides no reason for assigning a particularly early date to the burial.

The cup (pl. XL, *a*, and p. 112) is a fine piece of craftsmanship, well formed, well baked, and covered with carefully wrought cord ornament. In Wessex, cup types with exotic ornament are found as well as native (cord-ornamented) wares such as ours. An example of the former class was present in the Breach Farm barrow (1½ miles to the east of Sutton 268′) with grave goods suggesting connexions with Brittany, direct or indirect,[5] and a date about 1600–1500 B.C. Certain of the decorative features on our cup, the triangles on the body and the

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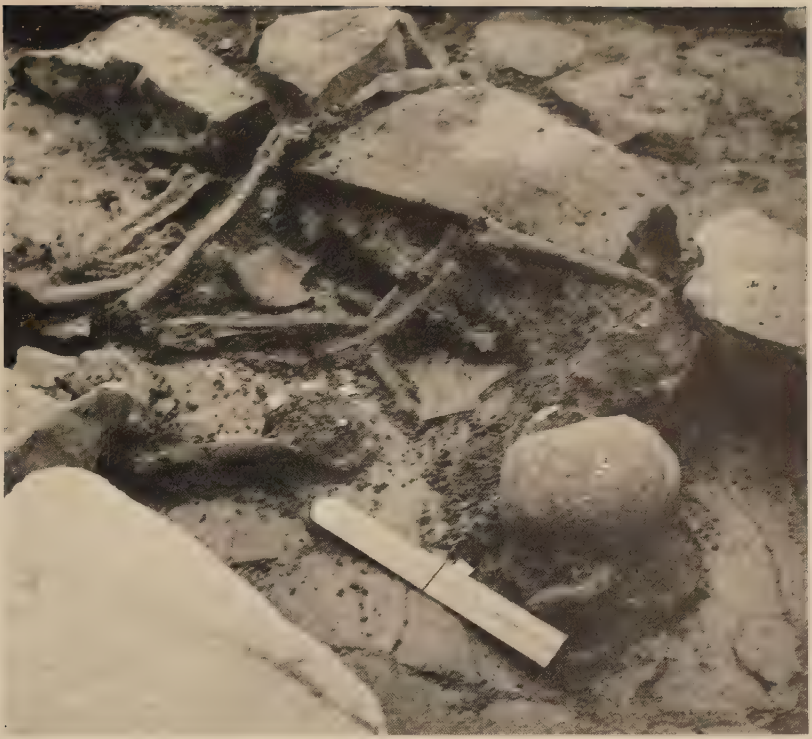
[1] The Herefordshire example, moreover, as the map indicates, is more likely to have been derived from Oxfordshire than from Wales.

[2] *Antiq. Journ.* (1934), p. 269. On this Mr. Stuart Piggott draws my attention to the presence in beaker hearths under a barrow at Chippenham, Cambs., of arrowheads which he holds must be derived from Wessex copies of Breton types. Compare C. S. Leaf, 'Bronze Age Barrows at Chippenham,' *Camb. Antiq. Soc. Proc.*, xxxix, 44, fig. 12, nos. 35 and 36, with, e.g., the Winterbourne Came arrowheads, *Proc. Prehist. Soc.* (1938), p. 68, fig. 7. And since Mr. Leaf found near by an inhumation burial of the Wessex culture (*Camb. Antiq. Soc. Proc.*, xxxvi, 134 ff.) one must conclude, remarks Mr. Piggott, 'that we have a synchronism with the Middle Bronze Age of Wessex and the retarded Beaker culture of part at least of East Anglia'.

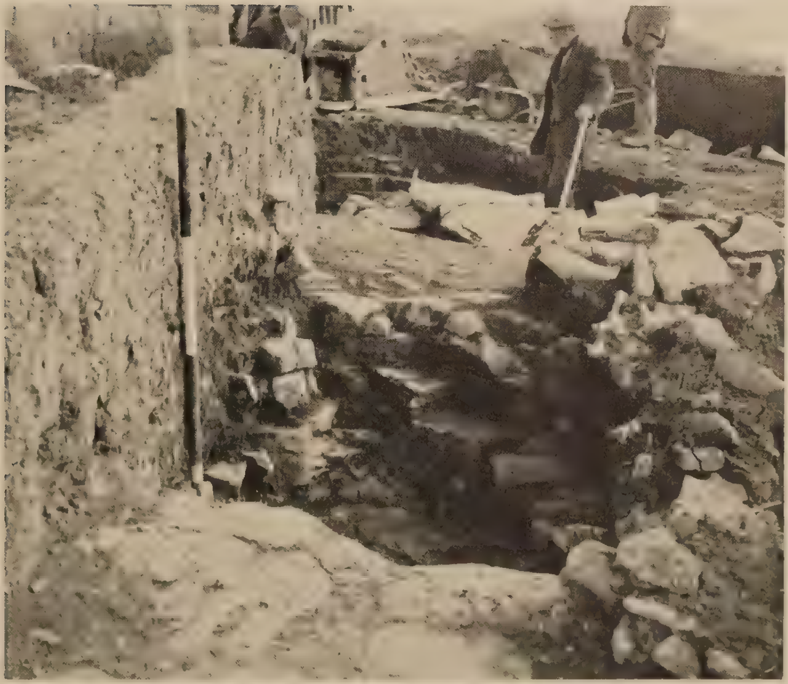
[3] *Proc. Prehist. Soc.* (1938), 'The Early Bronze Age in Wessex', by S. Piggott, *passim.*

[4] As illustrated by Piggott, *loc. cit.*, at Cressingham, Norfolk; Oakley Down, Figheldean, and Manton, Wilts. (figs. 22, 13, 10, and 8).

[5] *Proc. Prehist. Soc.* (1938), 'A Barrow on Breach Farm', by W. F. Grimes, fig. 7, p. 117.



a. Detail of contracted skeleton



b. The rock-cut ditch: north side, deep and narrow

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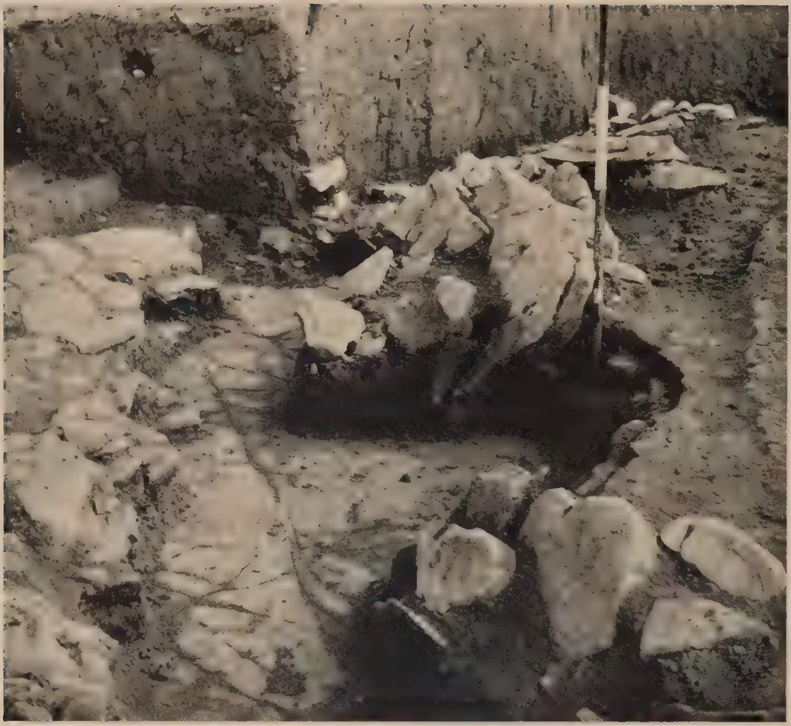
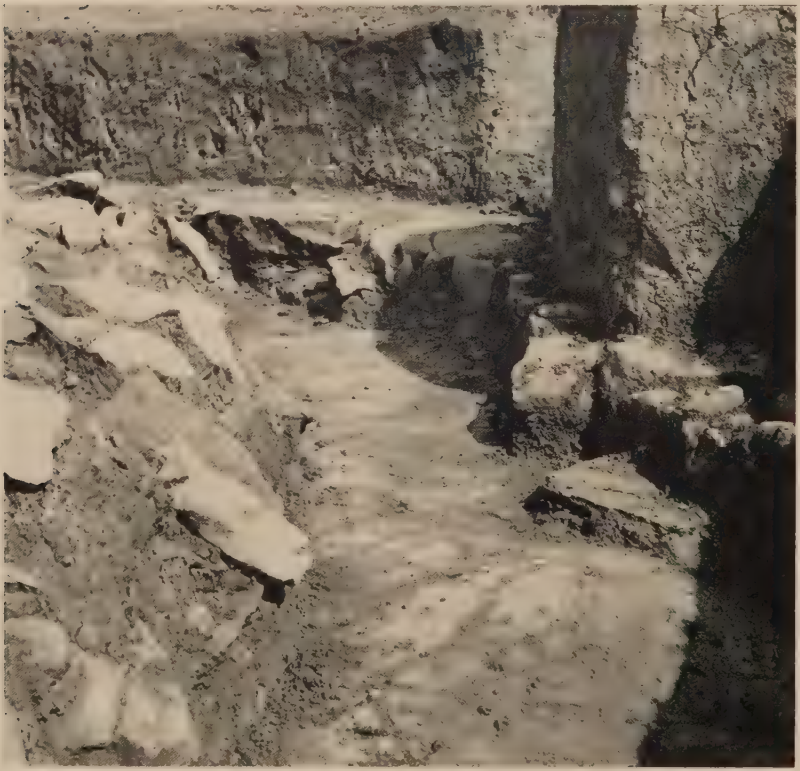


a. The rock-cut ditch: east side, shallow and broad, showing tilted slabs forming rim of beaker-barrow



b. The rock-cut ditch: south side, showing tilted slab-filling on left

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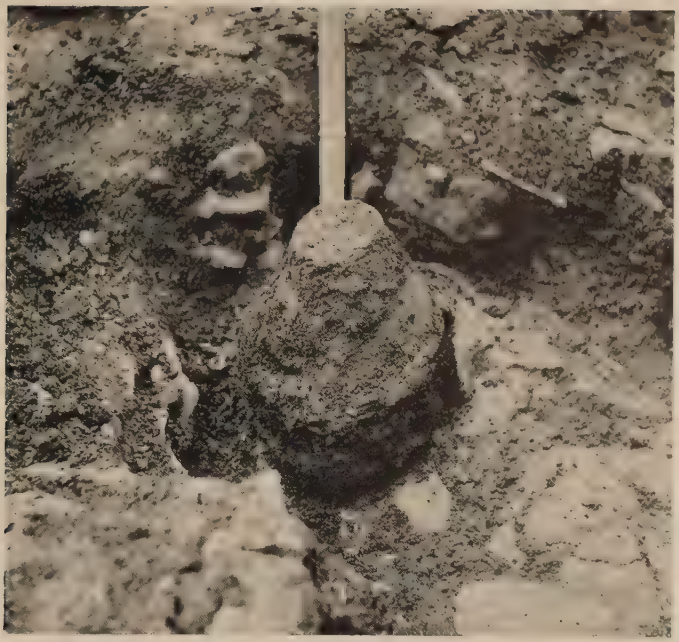
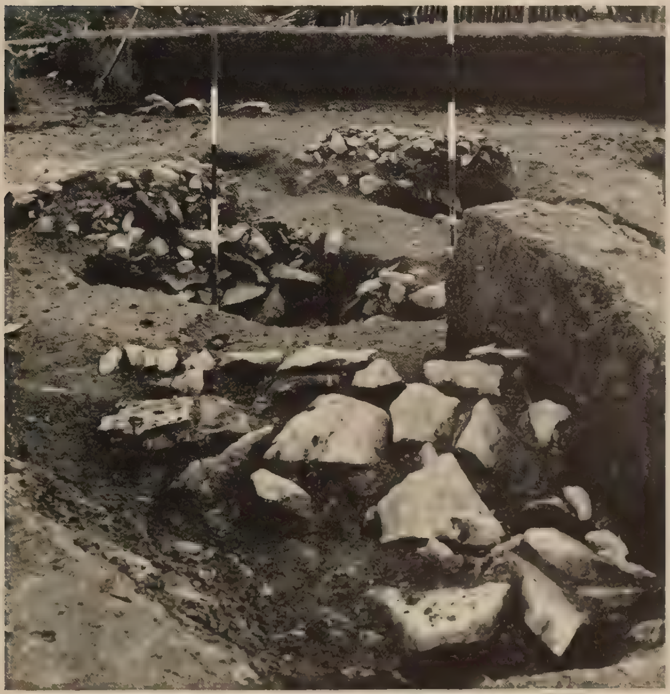


a. Cremation C; the urn disclosed



b. A portion of the hard-pan slope (on right) shown in relation to the underlying stone ring

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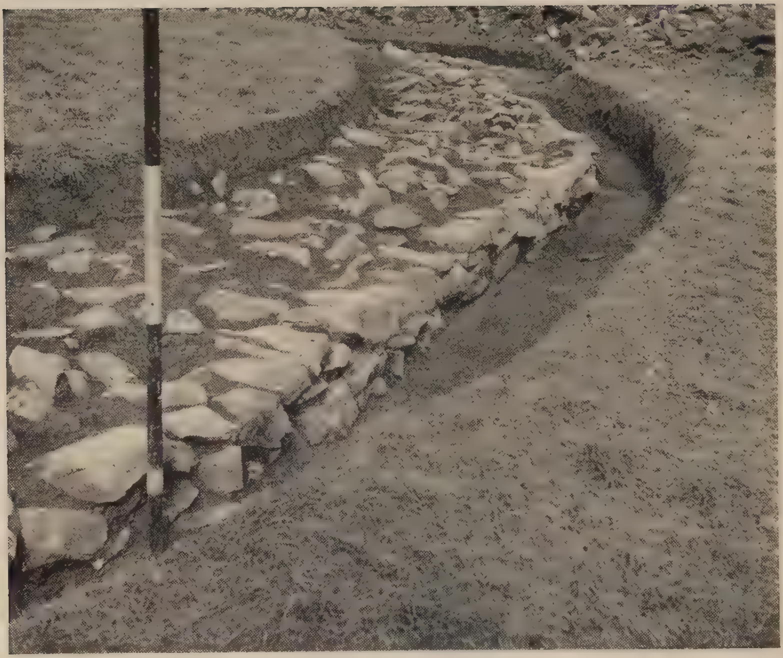
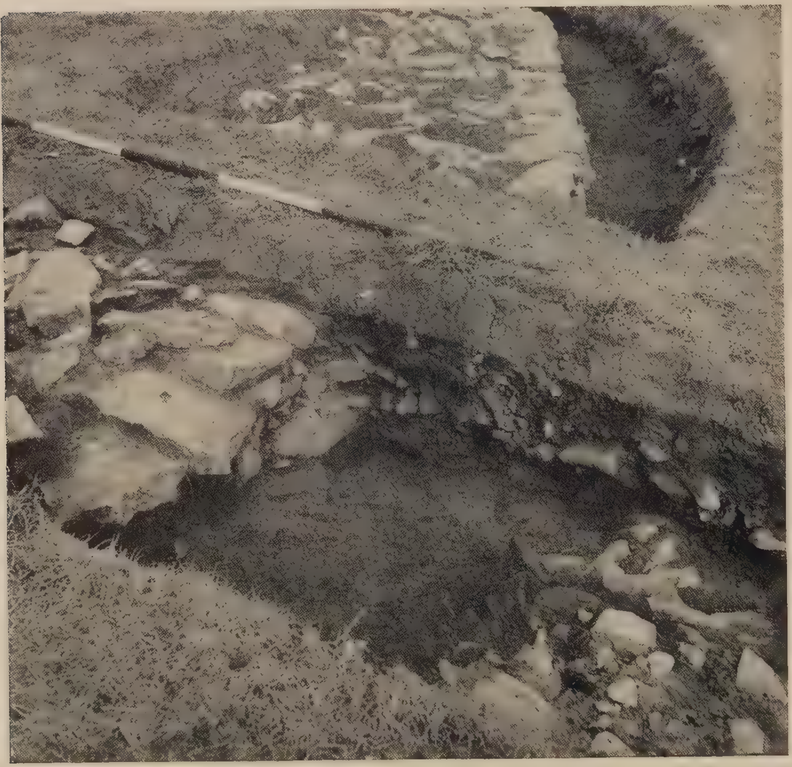
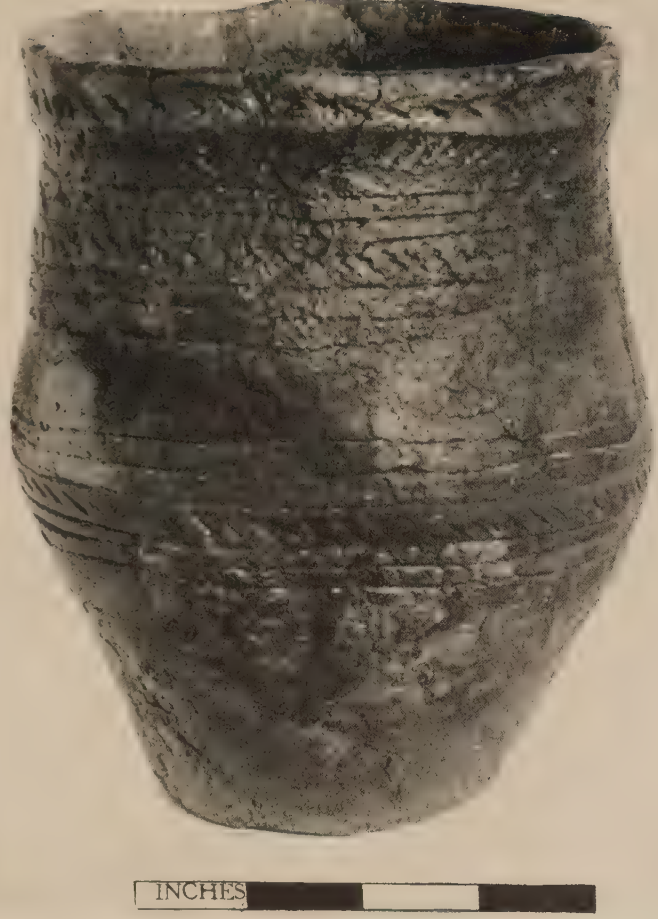


a. The revetment wall defining the enlarged barrow—south-east side

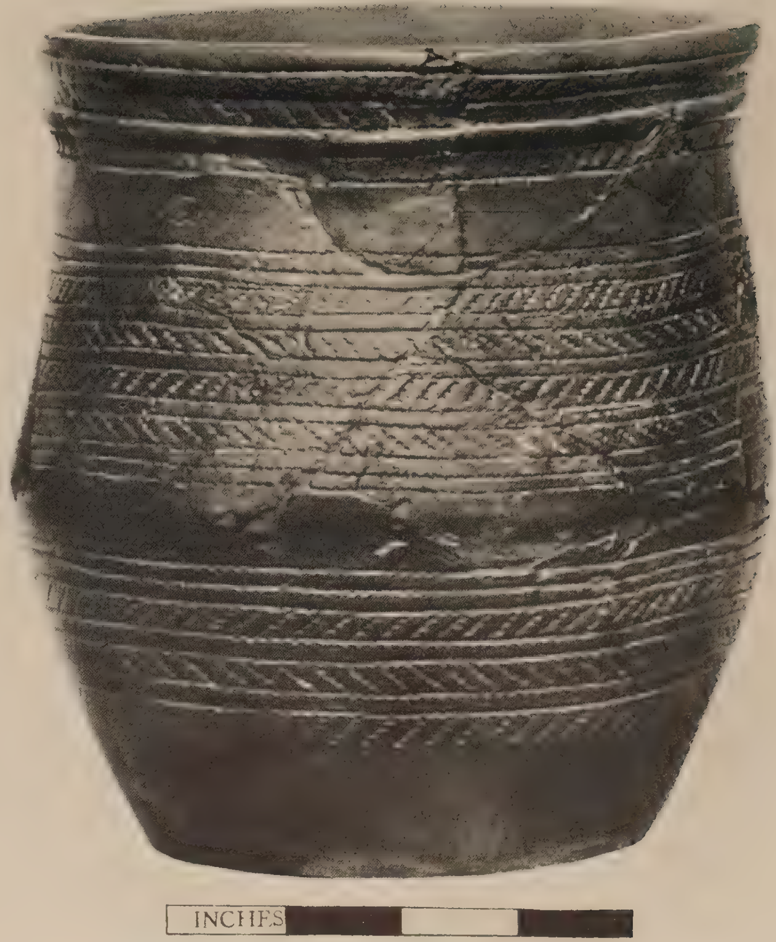


b. Packing of small stones in front of revetment wall on south side

PLATE XXXIX



(*a*) The Sutton Beaker



(*b*) The Penderyn (Brecks.) Beaker

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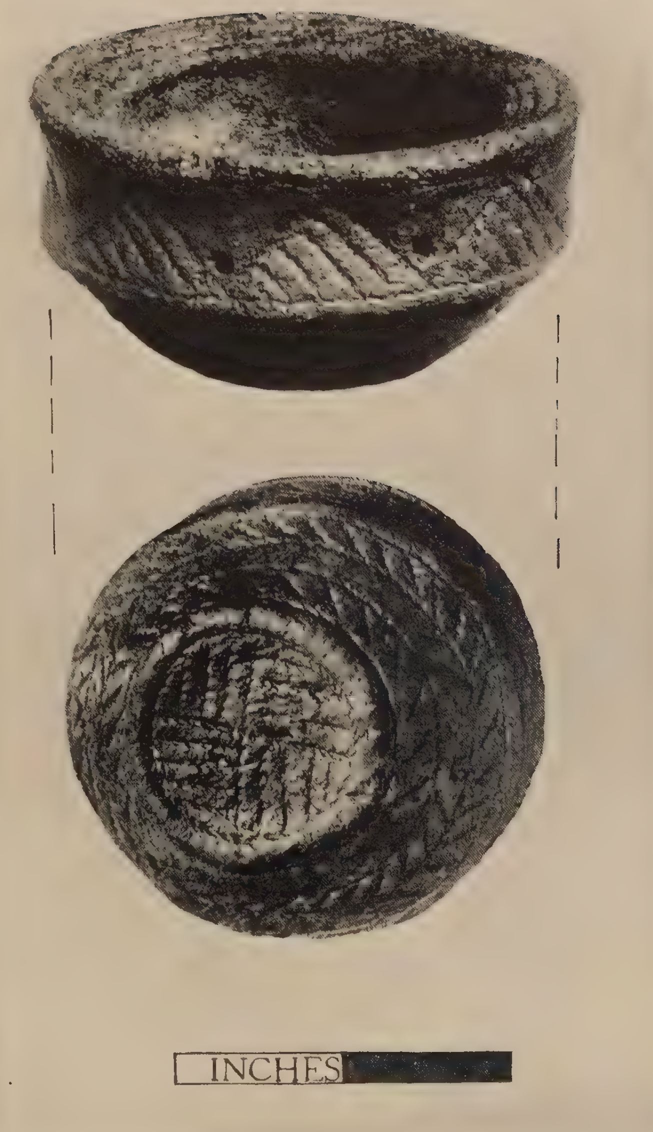
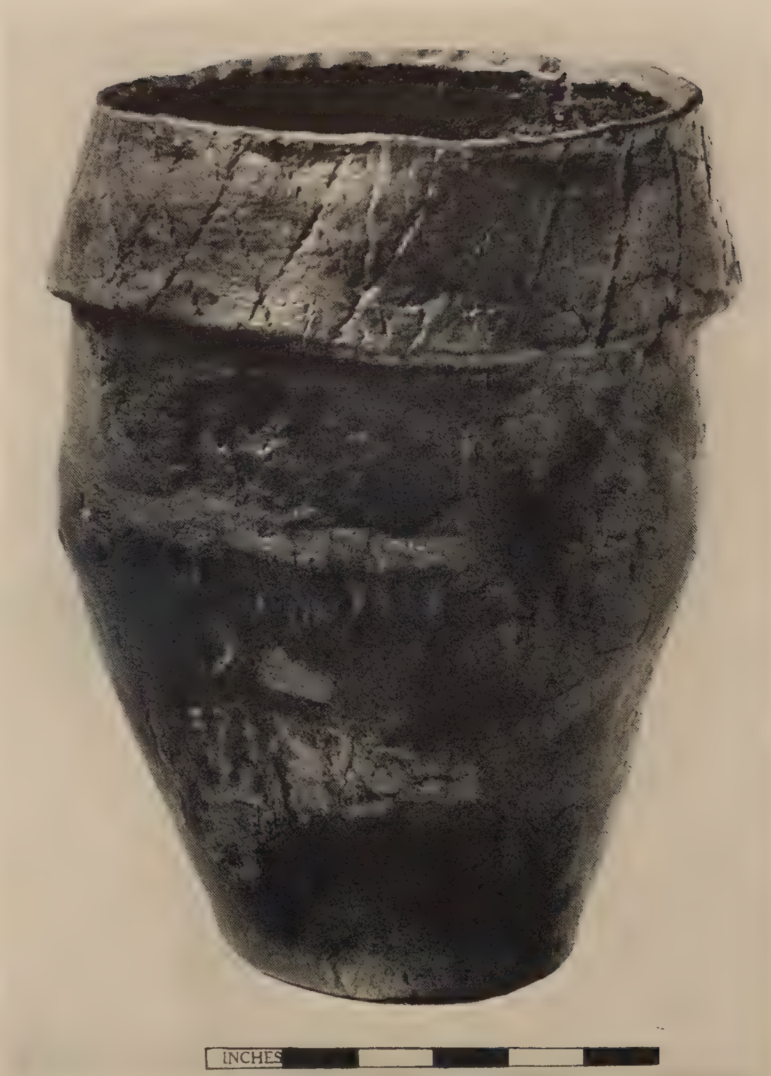


a. Cremation A: the pigmy cup



b. Cremation B: the urn

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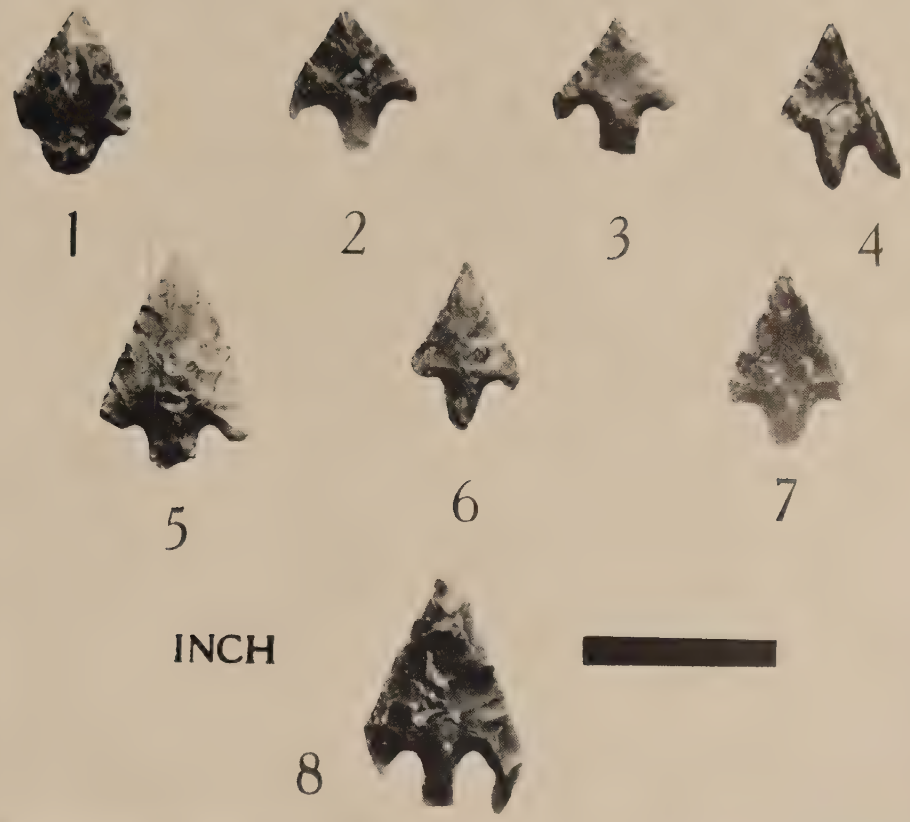
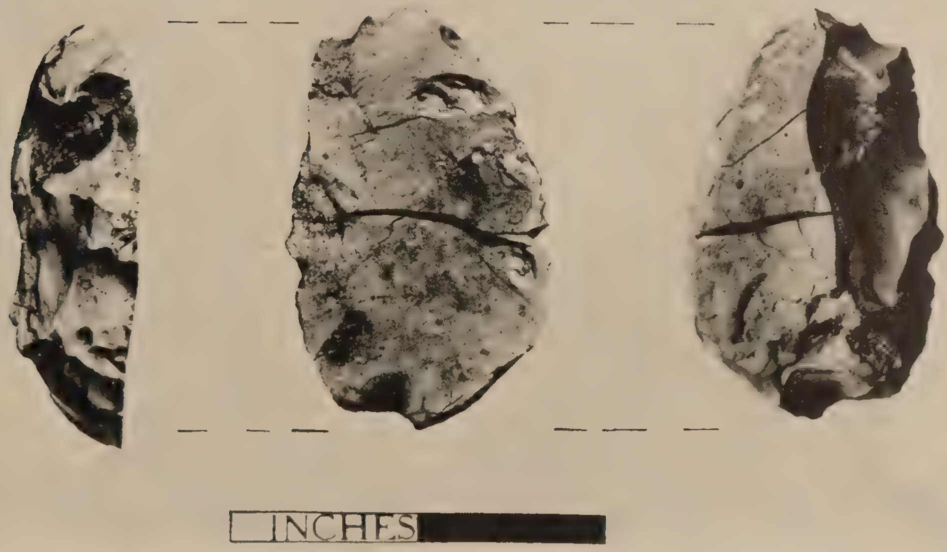
PLATE XLI



a. Flint arrow-heads 1–7, from Beaker burial; flint arrow-head 8, from Cremation C



b. Ridged flint 'knife' from Cremation C

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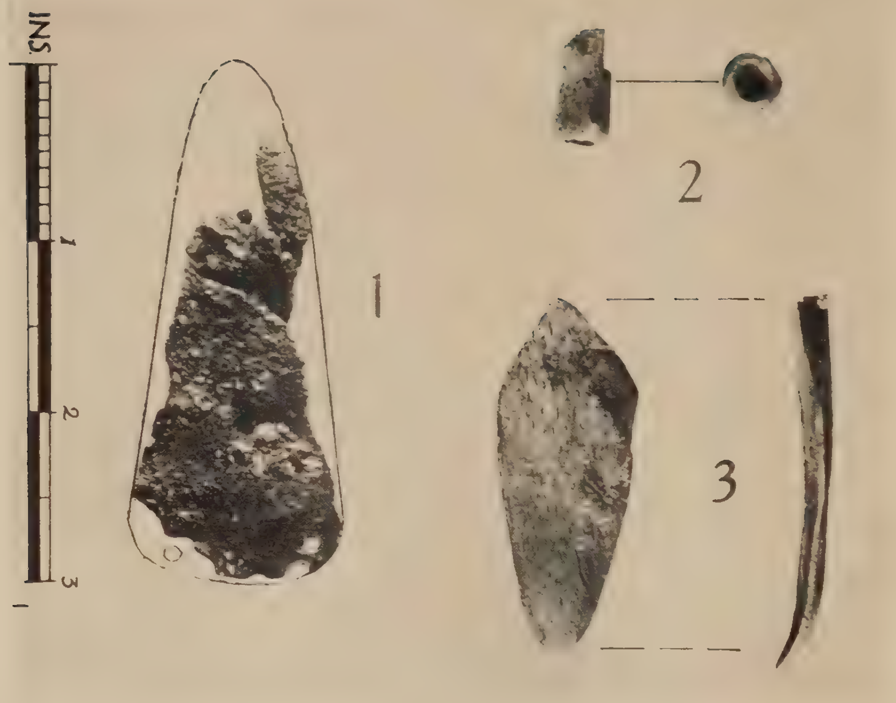
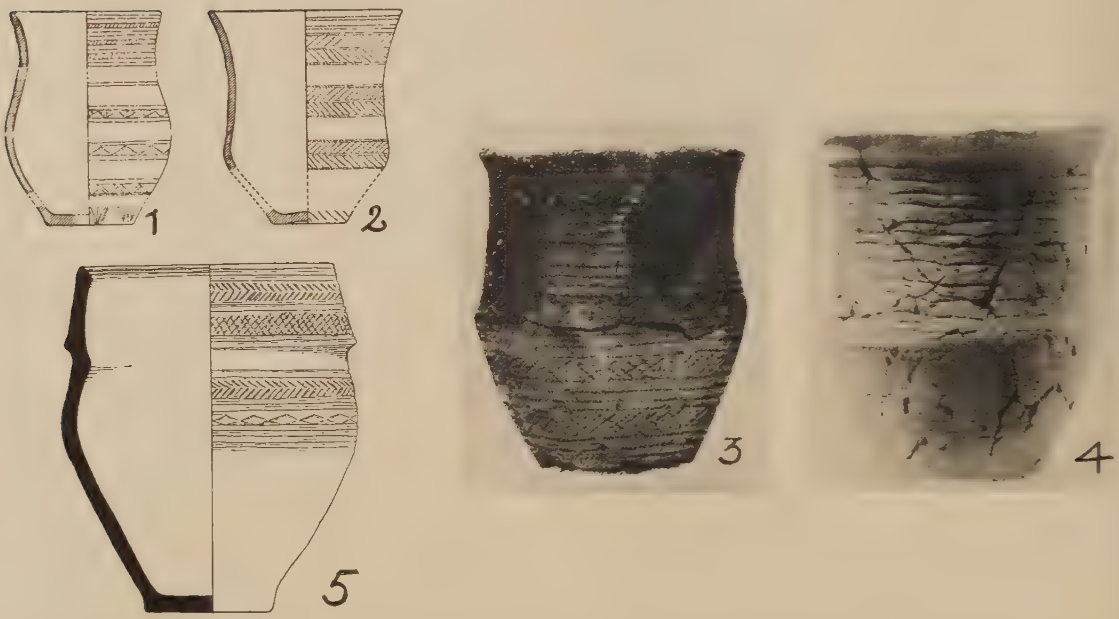


a. 1, Bronze knife-blade; 2, bone bead; 3, polished bone object (tip of netting rule?).
1 and 2 from Cremation A; 3 from Cremation C



b. 1. B$^{\mathrm{I}}\alpha$ Beaker; 2. B$^{\mathrm{I}}\beta$ Beaker. Both from West Kennet Avenue, Wilts. After *Antiquity*, X, Fig. 3, p. 423
3. B$^{\mathrm{I}}\beta$ Beaker: Michelmersh, Hants. After *Antiq. Journ.* XIV, p. XXIV
4. B$^{\mathrm{I}}\beta$ Beaker, Sutton Courtenay, Berks. After *Antiq. Journ.* XIV, pl. XXX, i
5. Overhanging-rim vase, from Normanton, Wilts. After *Proc. Prehist. Soc.* 1938, p. 91, Fig. 21

quadrant pattern on the base, are not unlike those on the Breach Farm cup; and the two burials are probably not far apart in time. It is to be noted that in both barrows the pigmy cup culture is 'pure', as in Wessex; that is, the cups were not associated with overhanging-rim urns. I suggest that a date of *c.* 1450 B.C. for cremation A is reasonable.

We now turn to the second phase: in particular to cremation C, in which the burnt bones were placed in an inverted overhanging-rim urn. This vessel was very badly baked, and had telescoped. It was found impossible to restore it, but it could be measured with a close approximation to accuracy, and, as the drawing (fig. 3) shows, it had a broad rim with diagonals of impressed cord pattern and a well-marked shoulder. The stratigraphical evidence suggests, as we have seen, that it was later in date than the pigmy cup burial; but how much later? Can these overhanging-rim urns be dated with accuracy? The point, in so far as it concerns cremation C, is of some interest, for we do not know whether the similarity in the protective devices employed in cremations A and C and the apparent persistence, when C was deposited, of a recognition of the sacredness of A, points to the interval of time between them having been short, or whether other causes have to be invoked.

This question cannot be answered without a digression. Abercromby affirmed in 1912 that the overhanging-rim urn (his type 1) was developed in southern Britain.[1] The evolution in this region was from a narrow-rimmed or collared vessel, the prototype of which was, he thought, a Neolithic bowl; this vase type had a well-marked shoulder and hollow neck, and is described as 'phase i'. Then follows a vase with a broader rim—the overhanging-rim proper—and straighter neck; it was also tripartite: 'phase ii'. Lastly, we have the debased 'bipartite' urn type in which the neck and shoulder have been merged and lost in the body: 'phase iii'.

Two facts will show that re-examination of the problem of the overhanging-rim urn is overdue. The first, that Abercromby dated the *effective introduction* of this pot-form *c.* 1400 B.C.[2] The second, that Piggott, in his paper on 'The Early Bronze Age in Wessex' already referred to, lists no less than seventeen 'cinerary urns' or 'urns' as elements of grave groups typical of the Wessex culture, which he dates *c.* 1700–1400 B.C.[3]

Piggott's dating of this culture is, I think, generally accepted; to solve our problem we have, therefore, to study the range of overhanging-rim urns included in Piggott's series. Unfortunately in only six of his examples[1] have we sufficient evidence of (*a*) the fact of association with datable grave-goods, or (*b*) the type of urn. To these six two urns, from Oxsettle Bottom, Sussex, and Stockbridge Down, Hants,[2] respectively, can be added as being associated with grave-goods similar to some of those in Piggott's list.

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[1] *Bronze Age Pottery of Great Britain and Ireland* (1912), vol. ii, esp. pp. 7–9.

[2] See *B.A.P.*, ii, Table VIII, p. 107. On p. 109 this date is moved up to 1500 B.C. which presumably is intended to include initiatory narrow-rimmed forms but little removed from the prototype; as his pl. LXIII, 10.

[3] *Proc. Prehist. Soc.* (1938), pp. 52–106, esp. pp. 102–6, and fig. 21, p. 91.

The evidence yielded by these eight interments is set out in a List (Appendix VI, p. 126) the arrangement being typological; examples of Abercromby's phase i are at the top followed by phases ii and iii. A briefer summary, however, will give us the essentials as follows:

No.	*Barrow*	*Urn type, phase i, ii, or iii*	*Associations*
1	Hengistbury	i	Gold objects: halberd pendant
2	Tynings	i	Faience beads
3	Upton Lovel	i	Gold objects: grape-cup
4	Normanton[3]	ii	Gold objects: double axe pendant, grape cup
5	Stockbridge	ii	Faience beads
6	Bloxworth	iii	Faience beads
7	Oxsettle	iii	Faience beads
8	Easton	iii	Faience beads

Let us first deal with the urns of phase iii. A mass of evidence which need not be detailed here carries this urn form down to the Deverel-Rimbury intrusions *c.* 750–500 B.C. Can it have begun as early as 1400? There is no reason to suppose so, for its inclusion by Piggott depends entirely on association with faience beads. Concerning these beads, Messrs. Beck and Stone in their authoritative summary state that 'the probable date of some of the British' (segmented faience) 'beads appears to be approximately 1400 B.C.' 'On the other hand, ... some may have arrived at a later period. This would explain why some of the objects associated with them belong to the Middle Bronze Age, whilst others appear to belong to a later period.'[4]

We now turn to the pottery of phases i and ii. Hengistbury provides an outstanding example of the large urn type with deep cavetto-neck of phase i, not

[1] Accepted: Piggott nos. 5, 23A, 28, 58, 72, 81. Rejected: (*a*) nos. 6, 25, 68; (*b*) 13, 17, 35, 41, 48, 74, 98, 99. References to all will be found in the list. For 17 see also *Devizes Museum Cat.*, pt. I, p. iii. This sketch of a lost urn is regarded as indicative of phase iii by Abercromby, *B.A.P.*, ii, 12; to me it looks like a badly drawn example of phase i or ii.

[2] *Archaeologia*, lxxxv, p. 237, and p. 217, fig. 1, 9; *Antiq. Journ.*, xx, pl. III, and p. 42.

[3] *Proc. Prehist. Soc.* (1938), pp. 90–1. There is ample authority for equating the 'Drinking Cup' of the original record of the Normanton excavation (Anc. Wilts. 202, Normanton Barrow, H. 156) with this urn. E. Cunnington, *Wilts. Arch. Mag.*, vol. 43, p. 268.

[4] 'Faience Beads of the British Bronze Age', *Archaeologia*, lxxxv (1935), 233.

far removed from its theoretical origin; only slightly less characteristic is the Tynings Farm urn, 12¼ in. high. Now Hengistbury has very early associations; and since the Tynings Farm urn, on Beck and Stone's evidence, cannot be earlier than about 1400 B.C., phase i in Wessex would appear to have lasted about 200 years, *c.* 1600–1400 B.C.

The Normanton pot is the more important of the phase ii specimens.

It is of different shape (pl. XLII, *b*, 5) and size (8½ in. high) to those we have hitherto considered. It is not a cinerary but is associated with an inhumation—an 'overhanging-rim accessory vessel' would be a correct description. Again its decoration and potting set it apart from the type series. It has, indeed, zonal beaker ornament, and is 'decorated with greater regularity and minuteness than any other vessel in the [Devizes] Museum'. 'The decoration was apparently wrought with a fine bone or wooden tool serrated at the edge.'[1] We have then an accessory vessel undoubtedly contemporary in Wessex with beakers, and with beaker ornament, but identical in other respects with fully developed overhanging-rim urns which would normally be dated some 300 years later. What confusion the failure to appreciate the varied origin, certainly dual and probably multiple,[2] of the south British pottery included in the term 'overhanging-rim urn' has caused us! This paper is not the place for an exhaustive study of the complex, but it should be pointed out that the confusion is not confined to the south, for in north and west Britain an urn type simulating phase i of the true overhanging-rim series developed out of the Yorkshire food vessel,[3] and so provided, probably not earlier than the fourteenth century B.C., forms which, superficially studied, would be dated in the fifteenth century. These varied origins no doubt are a factor in the universality throughout Britain of the overhanging-rim urn in the Middle Bronze Age; they may also account for the (minor) regional diversity in form.

Now our cremation C urn is clearly of the slender form represented at Hengistbury and Tynings Farm. It is of phase ii; and as phase i on present evidence persisted in Wessex till *c.* 1400 B.C. a probable date for it—situated where it is—is *c.* 1300 B.C. This implies a gap of several generations between the pigmy cup interment and it. I would then suggest that the apparent preservation of knowledge of the former during some 150 years may be ascribed to the same causes as were in operation in noble families in 'Heroic Ages' of which we have knowledge; song and saga in which family pedigrees and traditions were embodied.

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[1] *Devizes Museum Catalogue*, Pt. I, pp. 74–5. Compare the (undated) accessory overhanging-rim vessel figured by Thurnam (*Arch.*, xliii, 379, fig. 68), which also had zonal and some serrated ornament.

[2] The Upton Lovel pot, *c.* 1600 B.C., is not, I think, related to either of the type forms we have been considering. Though associated with a cremation, it was an accessory vessel, and did not contain the burnt bones.

[3] As Fox, *Arch. Camb.* (1925), pp. 180–2, and fig. 3. Since this paper was written an illuminating study of the northern overhanging-rim urns has been published. See *Prehistoric Cheshire*, by W. J. Varley, J. W. Jackson, and L. F. Chitty, esp. pp. 92–4.

It should be emphasized that the interment of cremated bones in an urn represents a variety of burial ritual distinct from the pigmy cup association, where the bones are spread on the ground. This urn ritual is represented near by at the Sheeplays barrow 293′, and only six miles away at Simondston and Pond Cairns. All the urns derive from the slender form represented at Hengistbury and Tynings Farm; the ritual thus seems to have originated in Wessex and probably came to the sea-plain of south Wales as a separate—and post-pigmy cup—inflow of cultural ideas. Whereas in Wales generally pigmy cups and overhanging-rim urns are found in association,[1] the notions they represent remained separate in the minds of the folk whose burials we have studied. Or, more probably, since our pigmy cups are early, the use of the pigmy cup died out hereabouts and was replaced by urn burial.

Cremation B, which we must now study, was in an urn inverted like cremation C, but was not protected by overlying slabs. The urn is an ill-made phase ii specimen which represents a later stage of development than the cremation C urn; the shoulder is weaker, and the neck flatter. It has unusual finger-tip ornament. A phase ii urn figured and described by G. C. Dunning from Niton, Isle of Wight,[2] has deep finger-tip impressions on the shoulder, and I see no necessity for a later date for this, or our urn, than *c.* 1100 B.C.[3]

Finally, we have the dry-stone wall to consider. This is paralleled in south Wales at the Breach Farm barrow, and at a barrow at Crick, Monmouthshire, to mention two recent excavations. The feature has been discussed at length in *Archaeologia* (vol. lxxxvii), in connexion with Pond Cairn, Bridgend, where it is shown that the combination of turf-barrow and stone-ring is part of the Middle Bronze cultural complex coming from the other side of the Bristol Channel. The packing of small stones, masking the dry-stone wall (which one might have supposed was built to show) is interesting. There are parallels in Neolithic long cairns[4] and at Crick the dry-stone wall was covered with a clay slope.[5]

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[1] See 'Some Unpublished Late Middle Bronze Age Pottery from West Wales', by Dr. H. N. Savory, *Arch. Camb.* (1941), pp. 31–48.

[2] *Proc. Isle of Wight Nat. Hist. and Arch. Soc.* (1932), pp. 205–6, and pl. v, fig. 2.

[3] It must be insisted, however, that there is no stratigraphical evidence of date, and if the reader considers that finger-tip decoration on the flattened *rim* of a cinerary points definitely to cultural contact with L.B.A. intruders of 700 B.C. or later, my general argument will not be impaired. It is in any case difficult to see how the urn could have been placed so deep in the ground subsequent to the enlargement of the barrow *c.* 1300 B.C. But this must be accepted.

[4] Mrs. E. M. Clifford, 'Notgrove', *Arch.*, vol. 86, pp. 136 ff.; W. F. Grimes, 'Ty Isaf', *Proc. Prehist. Soc.* (1939), p. 125.

[5] H. N. Savory, *Arch. Camb.* (1940), esp. p. 175.

SUMMARY

We may summarize fact and inference as follows: Not later than 1500 B.C. a chieftain of the conquering beaker folk, an archer, who had colonized a patch of territory in the Vale of Glamorgan, died, and was buried with appropriate grave-goods near his dwelling. The tomb structure was elaborate; a large grave-pit was cut in the Lias rock, a cist made therein, and a U-shaped cairn built over all; then an earth barrow was raised, its margins defined by slabs and stones laid along the inner edge of an encircling rock-cut ditch. The little barrow, some 26 ft. in diameter along its major axis and 22 ft. along its minor, thus appeared, at certain points though possibly not all round, to spring from a stony plinth on a rock floor below ground level—a striking construction. The culture which this man had inherited was of Breton origin; it had lasted in southern Britain some 400 years when he practised it on the northern side of the Bristol Channel, and was in decay.

The neighbours of this archer (at Breach Farm) adopted new conventions and ideas, one of which was related to the disposal of the dead—by cremation instead of inhumation. Pigmy cups, and thereafter overhanging-rim urns, replaced beakers, and metal knives were in use. The proximate source of the new cultures was in all probability the same as that of the old: the opposite coasts of the Channel. The successor of the beaker colonist adopted the new pigmy cup fashions, but the pots his women made were of native, not exotic, design and decoration. When he died, probably not later than 1450 B.C., his ashes (cremation A) with bronze knife and pottery cup rested in the founder's barrow; its construction was still in memory, and a position of dignity was chosen for the interment exactly at the base of the hidden cairn. A child's body, reminiscent of the ancient burial rite, was inserted at the foot of the cairn overlapping this cremation; human sacrifice was evidently part of the new ritual.

The interest then shifts to the outside of the ditch, on the north. The death of a child presumably of the same *gens* but after an interval of between one and two centuries was the occasion for another cremation, in an inverted overhanging-rim urn; a finely flaked arrow-head, perhaps symbolic of the craft the noble youngster would have mastered, lay beside it (cremation C). The slabs that covered the deposit, like those covering the first cremation (A), are held to have been taken from the rim of the beaker barrow.

Cremation C was associated with elaborate ritual, for the ground in the neighbourhood was cleared down to the rock and a mass of stones deposited all round; these filled the ditch where it was not already levelled up and extended on to the barrow itself. Again child sacrifice is in evidence, for three adjacent cremations of children placed in hollows between the stones without grave-goods (D, E, and F) can hardly be natural deaths. They are certainly contemporary, for at this stage the enlargement of the barrow was undertaken. Originally an oval 29–33 ft. to the external edges of the ditch, the new bounds gave an oval 69–73 ft. in diameter; the material chosen for the enlargement, in accordance with the local traditions of the overhanging-rim urn culture represented in adjacent barrows, e.g. Sheeplays 293′, was mainly turf. This formed a ring, rising from ground level on the new margin, covering the new deposit of stones, and surrounding the ancient barrow. But the traditions of the founder's folk seem to have been respected. The beaker barrow was of soil; and mixed soil, not turf, was tipped into the centre of the new structure, making a large flattened area whose height was approximately that of the crest of the original barrow. The slabs covering cremation C were intentionally visible on the slope of this new structure, and the top of the slabs covering cremation A were still to be seen by those taking part in the ceremonies on the central flat. The turf slope all round (and the turf flat on the north side) were then heavily trampled; we may envisage a ritual dance which completed the ceremonial of cremation C and had some reference to the older interments. These ceremonies should be dated not later than *c.* 1300 B.C.

Immediately thereafter the new tomb was completed. More turf and more soil were brought to heighten the structure; an 18-in. dry-stone wall of Lias boulders and slabs, probably collected from the fields and pastures of the settlement (or from neighbouring watercourses), strongly reinforced behind to prevent slip, was constructed. Finally, the front of the revetment wall was in chosen places hidden by a sloping mass of small stones, rammed hard.

Centuries later, the ashes of a woman and a new-born child were buried deep in the centre of the barrow, in an inverted overhanging-rim urn with finger-tip ornament.

APPENDIX I. STRUCTURAL MEASUREMENTS[1]

Beaker barrow. Oval.

Diameters: on major axis to inner ditch edge 30 ft. 0 in.
on minor axis to inner ditch edge 22 ft. 3 in.
on major axis to outer ditch edge 33 ft. 8 in.
on minor axis to outer ditch edge 29 ft. 6 in.

Dimensions of grave-pit: 12 ft. 5 in. by 9 ft. 10 in.

[1] The major axes of the successive constructions in the barrow vary slightly in direction, being approximately north-west to south-east. The minor axes also vary slightly, being approximately east-north-east to west-south-west. Certain of the measurements in the text, being taken along the main cross trenches, differ slightly from those in this Appendix, which are derived from the triangulation of the barrow, plotted on to a large-scale plan.

Dimensions of ditch near four cardinal points (as recorded in the sections):

E. 5 ft. 7 in. wide; 1 ft. 6 in. deep.
W. 4 ft. 9 in. wide; 1 ft. 5 in. deep.
S. 3 ft. 9 in. wide; 2 ft. 1 in. deep.
N. 3 ft. 7 in. wide; 2 ft. 1 in. deep.

Middle Bronze Age barrow.

Diameters: on major axis to dry-wall face 73 ft. 4 in.
on minor axis to dry-wall face 71 ft. 3 in.

Diameters of Middle Bronze Age soil barrow within turfy ring:
on major axis 23 ft. 7 in.
on minor axis 21 ft. 7 in.

APPENDIX II. INTERMENTS, AND OBJECTS ASSOCIATED THEREWITH

(A) *Three Inhumations*

PRIMARY INHUMATION. Male adult, height 5 ft. 6 in. (pp. 114 ff.).

Associated objects. Beaker. Of B 1 (β) type with cordon near rim and two zones of rouletted decoration (p. 101). Height 6·5 in.; external breadth at rim 5 in., at base 3·1 in. Ware fairly well baked, warm reddish brown in colour, with black core; very even in thickness (rim 7–8 mm., body 5 mm., shoulder 7 mm., base 6 mm.).

Arrow-heads. There are seven of these; all appear to be unused, the points being undamaged. One barb of (1) and of (4) were broken off in antiquity, possibly in course of manufacture. The axial positions in the grave of several of these arrow-heads were such that they could not have been attached to unbroken arrow-shafts. They lay in soil from 2 in. to 6 in. above the grave-floor; i.e. they were put in from time to time until the soil was piled up in the grave to that level. The variation in form and size and thickness is considerable, and it is useful to have so lengthy a contemporary series. The photographs give the form: the measurements follow. All are of good flint.

	Length (point to tang)	*Breadth (across ends of barbs)*	*Thickness (maximum)*	*Notes*
1.	23 mm.	16 mm.	5 mm.	Blue-grey patina.
2.	19	19	3	Brownish-grey patina. Part of the flake surface seen on one side.
3.	19	18	2·5	Dull blue-grey, trace of cortex on one side. Very delicately wrought.
4.	23	10 (half barb)	3	Cloudy bluish-grey and white.
5.	29	21	3·5	Greyish-white. Flake surface visible on one side.
6.	23	16	4·2	Cloudy blue-grey. Delicately wrought.
7.	25	19	4·2	Dark brown and lustrous.

Scraper. Half a small thumb-scraper of reddish-brown chert. The curved face with secondary working survives. Breadth across chord of arc formed by broken back of scraper 24 mm.

SECONDARY INHUMATIONS.

(*a*) Portion of skull, found among stones near cremation E (p. 116).

(*b*) Skeleton of a child, at foot of cairn on inner side of eastern horn (p. 116).

(B) *Seven Cremations*

CREMATION A.

Male over eighteen years (p. 116). A saucer-shaped area of charcoal with which was associated some reddened clay, 30 in. by 30 in. In the middle a domed elongated mass of bones, 22 in. by 90 in., which must have been wrapped in a cloth. Pigmy cup in centre of, and covered by bones, upside down on a very thin spread of charcoal. Above the deposit yellow clayey compact soil, covered by the large flat stone. Then turfy earth with some stones, and the top slabs.

Pigmy cup. This is a well-wrought and finely decorated vessel, reddish-brown in colour, and is perfect. The upper part of the cup is slightly concave in outline; it has an angular shoulder, and the lower part is steeply bevelled off to the small base. This base is slightly hollow, having a rounded undecorated margin on which the cup rests. Two holes pierce the upper part, side by side, 30 mm. apart, which were made by pushing a bone or smoothed stick through the wall before baking; the holes are very small.

The height of the cup is 42 mm., the breadth at the rim 85 mm., and at base 45 mm. The broad flat rim (11–13 mm.) slopes inwards and downwards, the diameter of the opening being 60 mm. The interior is carefully smoothed, the floor being slightly domed.

The whole of the cup is covered with impressed cord ornament. On the rim are three concentric lines of such ornament; on the upper part of the body is a continuous succession of hatched triangles, points upwards, bordered above by a horizontal line. The hatching of the triangles is diagonal in the same direction throughout. The two holes are sited where the bases of two of these triangles meet. The lower part of the body is decorated by three zones of diagonal cord impressions, in alternating direction, separated by horizontal lines. The base shows a circle divided into quadrants by horizontal lines, those in each quadrant being at right angles to the next.

Bronze knife. Badly corroded. Some very minute pieces survive in addition to remains shown in photograph. On both sides the upper part shows smooth patination, the lower part crusted patination, which enables the form of the handle to be determined with fair certainty. The surviving rivet-hole is very small—there may have been two only. No rib: no grooves. The blade is very thin: thickness at centre near the handle 1·75 mm. Greatest length of fragment is 48 mm.; the greatest breadth 30 mm. Cf. *Guide to the Prehistoric Collection* (National Museum of Wales), fig. 62, 4.

Bone bead. Burnt and broken. Original length unknown; at present 15 mm. At the well-preserved rounded end the diameter is 8 mm., and the bore, which is slightly funnel-shaped, is 4 mm. The bead is a roughly cut object, polygonal rather than cylindrical.

Cremation B.

Adult female with newly born child or large foetus (p. 116). Overhanging-rim urn, inverted, filled with bones and some charcoal, in a hole sunk to the subsoil below the original ground level. The small space around the urn was surrounded by material from the pyre. Soil was domed up over the urn, very hard. Three flint flakes were on this dome.

Overhanging-rim urn. The urn is a shapeless vessel of poorly baked coarse ware, the rim diameter 8 in. to 8·3 in., the height 11 in. Depth of collar 2·5 in. The poorly wrought impressed-cord pattern on collar gives a succession of complete diamonds with slight overlaps of the bounding lines above and below. There are finger-tip indentations on the shoulder, and on the broad flat rim.

Flint flakes. 1. Grey flint, struck from a nodule with thick cortex. Traces of retouching on edges. Greatest length 29 mm.

2. Flake of coarse cherty flint retouched on one side. Greatest length 38 mm.

3. Spall of grey flint, no retouching. Greatest length 30 mm.

Cremation C.

A child under seven years of age (p. 116). The overhanging-rim urn was inverted in a hole 24 in. by 22 in., sunk to the rock floor. The hole was filled with red and grey and black soil, evidently from the pyre. The base of the urn, on ground level, was surrounded by a saucer-shaped layer of pure charcoal over 2 ft. in diameter, on the north edge of which was a flint arrow-head. Above was soil; then the lower slab seen in the Section (pl. XLV). The urn was telescoped in antiquity, portions of its structure being found in the centre of the consolidated mass of bones and charcoal which filled it. Two objects—a ridged flint 'knife' and a tongue-shaped piece of smoothed bone, were among the bones.

Overhanging-rim urn. The urn could not be restored. The following are the probable dimensions: diameter at rim 6·7 in.; at base 3·25 in. Estimated height 12 in. Depth of collar 2·2 in. The urn was probably well proportioned, the undamaged lower part being slender and shapely. It was very badly baked, and had the same consistency as the surrounding soil. On the rim are diagonal cord impressions in one direction only. A reconstruction is figured (fig. 3).

Arrow-head. Greatest length 31 mm.; of translucent flint, slightly clouded. A small patch of cortex survives on one side. One barb was partly broken in antiquity.

Plano-convex 'knife' (?). Length 60 mm.; breadth 35 mm.; maximum thickness 14 mm. Whitened, cracked, and distorted by heat. One-half of the ridged back shows the cortex of the flint nodule. Edges sharp, showing secondary flaking coarse and fine. A very debased (and doubtful) example of the type. See Grahame Clark in *Antiq. Journ.* (1932), pp. 158–62.

Bone netting-rule (?). A tongue-shaped fragment, broken and cracked by fire, of smoothed bone with blade-like edges and rounded tip. Greatest length 52 mm.; greatest breadth 20 mm.; and thickness 4 mm.[1]

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[1] Bateman, *Ten Years Diggings*, p. 103, records: 'A bone-netting rule or modelling tool, 12 in. long, made from the rib of a large animal . . . neatly rounded off at each end, and reduced to a regular breadth and thickness throughout.' Found in a Derbyshire barrow with a drinking cup. Similar

Cremation D.

A child (p. 117). A basin-shaped deposit of charcoal 17 in. by 15 in., 3 in. thick at centre, with layers of red clay and a few fragments of burnt bone. On original ground level. The material was put down hot; the natural soil at the margins was extensively reddened, and an adjacent slab cracked. Below the deposit, in 2 in. of soil above rock, teeth of pig. The deposit extended up to and appeared to be contemporary with C. Adjacent to it, on the north side, the made ground above the rock was jelly-like, full of Lias stones and stained with charcoal.

Cremation E.

A child of twelve years or under (p. 117). A deep basin-shaped mass of charcoal and red earth with bone fragments interspersed, circular, 18 in. in diameter, in a hollow among stones. The deposit reddened the edge of an adjacent large stone.

Cremation F.

A child of under seven years (p. 117). A mass of charcoal and some bone in a stone heap. The surrounding soil was slightly reddened. It was unlike all the other cremations in form, being narrow and deep: the area 10 in. by 7 in., the depth 10 in. The upper part of this deposit was well above the original ground level.

Cremation X.

A thin layer of very finely comminuted bone (p. 117) and charcoal extending over a triangular area, 1 ft. 2 in. by 1 ft. 5 in. by 1·5 in. The edges and floor are pinkish-red, showing that the deposit had been put down hot.

Note.—One flake of dark flint without secondary working was found on original ground level under the barrow. Greatest diameter 36 mm.

APPENDIX III

Report upon the Osseous Remains by L. F. Cowley, *Esq., M.Sc., Assistant Keeper, Department of Zoology, National Museum of Wales*

(A) *Inhumed bodies*

i. *Crouched (beaker) burial.* The photographs (pls. xxxiv, *b*, and xxxv, *a*) show that the individual had been placed so that he rested partly on the left side and partly on his back. The right forearm lay across the body and the right hand on the left arm over the elbow joint; the left hand rested on the knees. In passing it should be noted that the left humerus is shown too far to the left and must have been moved at some time subsequent to the burial. The thighs were at right angles to the general direction of the vertebral column and the lower part of the legs folded back with the heels almost touching the back of the thighs.

The skull which lay on its left side was badly crushed and the whole of the facial region damaged and displaced to the right. When cleaning the skull of adhering soil the

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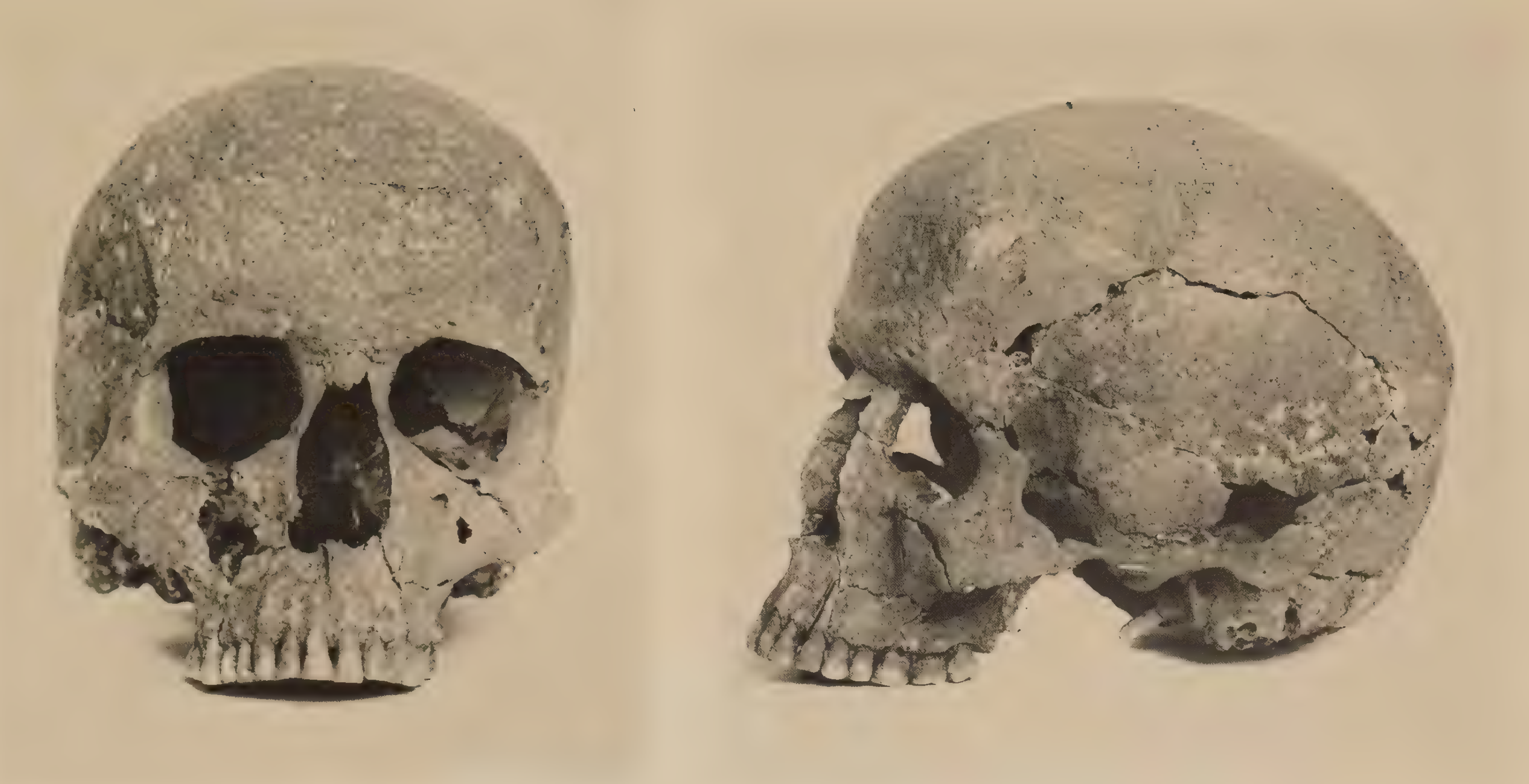
objects of Late Bronze Age date were included in the Heathery Burn (Durham) finds: *B. M. Bronze Age Guide*, 2nd ed., p. 49, fig. 35.



a and *b*. Beaker burial: the skull

Archaeologia, Volume 89, published by the Society of Antiquaries of London, 1943

whole of the facial region collapsed and much of the very fragmentary material was too small to replace during restoration of the skull. Restoration, however, has made possible a series of measurements (pl. XLIII, *a* and *b*).

Measurements of the cranium—which are as follows: length 179 mm., breadth 149 mm., and auricular height 122 mm.—indicate that it was about average for Early Bronze Age male skulls. The *cephalic width index* 83 indicates the skull is *brachycephalic* or short-headed. As regards *cranial capacity* this works out at 1,546 c.c., which is not far short of the average for Bronze Age males. The total measurement from *nasion* to *opisthion* 377 mm. is about average; this is made up of the following: *frontal arc* 133 mm.; *parietal arc* 127 mm.; and the *occipital arc* 117 mm.

As regards the face, its length (*nasion-alveolar*) is 73 mm.; this is above the average, which for Bronze Age males is 69·1 mm. The breadth of the face (*bizygomatic*) is 141 mm., and between the *zygomatic-maxillary* sutures 102 mm.; both these measurements are also above the average. The facial index, however, places the individual in the *lepto-prosopic* or long-faced group.

The *nasal height* 51 mm. and the *nasal width* 24·5 mm. are about average, and the *nasal index* just qualifies for the *mesorrhine* (or intermediate) category where the majority of Bronze Age males are placed.

Regarding the *orbital height* 32 mm. and the *orbital width* 40 mm., these give an *orbital index* of 80·0; thus the skull must be placed in the *microsemic* category, in which the orbit is oval rather than round.

The *gnathic index* 97·6 places the face just inside the limits of the *orthognathic* category although it approaches the *mesognathic*.

The dentition, which is complete, shows no sign of disease; the incisor-teeth indicate an edge-to-edge bite. The width of the palate 44 mm. is above the average for Bronze Age males.

The lower jaw, which was in several pieces, has been restored and measurements taken; these are: height at symphysis 32 mm.; thickness at symphysis 17 mm.; height of ramus 72·5 mm.; width of ramus 34 mm.

The dimensions of the teeth of the left side are as follows:

	Upper	*Lower*
central incisor	8·2 mm.	4·9 mm.
lateral ,, ...	7·0	5·5
canine	7·3	6·8
1st premolar	6·7	6·9
2nd ,, ...	6·4	6·9
1st molar	10·9	10·9
2nd ,, ...	9·6	10·9
3rd ,, ...	8·2	10·5

The limb bones were all badly damaged and none could be wholly restored. From a partially restored tibia I have estimated that the stature was 5 ft. 6 in. This tibia was markedly *platycnemic*, having an index of 72·4. The heads of both femora had diameters of 49 mm.

A portion of the distal extremity of the left femur and some of the vertebrae showed that the individual suffered from osteo-arthritis.

In conclusion it may be said that the remains represent a right-handed male about 5 ft. 6 in. in height and about forty years of age. He was of robust build with a round head typical of the Bronze Age invaders. The face was long and the cheek bones, of the rather wide face, pronounced. The nose, judged by the nasal index, was medium to large, the chin was well developed, and the eyes set well apart. In profile the head would appear high relative to its length and the face almost mesognathic, although as stated above it falls just inside the orthognathic category.

ii. *Human remains from eastern horn of cairn.* These remains had not been burnt; they consisted of fragments of skull and portions of long bones. Fragmentation of the skull was due to several factors, of these fracture due to pressure of soil coupled with softness and thinness of the bone comes first, and also that after the removal of the skull with some of the soil from the site, the soil dried harder than the bone which tended to break very readily. None of the long bones was complete but many teeth were recovered; these belonged some to the milk and some to the permanent dentition, the latter being unworn.

The remains represent one person, and whilst the sex is unknown the age may be put at about eleven years.

iii. *Human remains found near cremation E.* The material from this spot consisted of a portion of a skull. There was no trace of the lower jaw or of the rest of the skeleton.

On removing adhering soil from the skull it fell into many pieces; this was no doubt due to its having been badly crushed at some time. The teeth of the permanent dentition indicate that the individual was an adult, and judging by their wear and also bearing in mind the coarse food of primitive people, probably about middle age. Whilst I am not certain of the sex I am of the opinion that the remains represent a male.

Since there were no long bones present no estimate of stature was possible.

(B) *Cremated material*

Cremation A. These burnt bones yielded various pieces that could be identified. Of these a proximal portion of the left radius showed that its possessor was over eighteen years of age since fusion of shaft and epiphysis had taken place. In addition, a right and a left petrous portion of the periotic bone; the odontoid process of the axis (2nd cervical) vertebra; fragments of teeth and skull, and a number of ungual phalanges were amongst the material.

There was no duplication, and although I am unable definitely to establish the sex of the person represented, the robustness of various fragments suggests a male.

Cremation B. In addition to several extremities of long bones which were rather abraded, the material included portions of a right and a left petrous bone of an adult and several portions of teeth. Also two other petrous bones were identified, a right and a left, and these belonged to a newly born child or a large foetus.

Cremation C. This material consisted of the remains of one person. Amongst the fragments of bone were several crowns of teeth of the permanent dentition, including the two upper central incisors, that had not come into use. Thus the remains represent a child under seven years of age.

Cremation D. Whilst the material from this site appeared to consist only of charcoal, a very few fragments of bone were present, one being an unworn crown of a premolar tooth of a child.

(NOTE.—It occurred to me during my examination of this material that (*a*) either the cremation was exceptionally complete, or (*b*) that the main mass of the burnt bones had been transferred elsewhere.)

In the 2 in. of soil underneath the pit which contained cremation D were several teeth of the upper jaw of pig.

Cremation E. This material included two petrous bones, a right and a left, and the crowns of three unworn molar teeth. Thus it may be said that the remains are of a child of twelve years or under.

Cremation F. The material from this site yielded a petrous bone of the right side of the skull and an incisor tooth of the deciduous dentition. In addition portions of the crowns of three unworn molar teeth, the crown of an unworn canine, a portion of the crown of an unworn upper central incisor—all of the permanent dentition—were also recovered. The remains, therefore, may be said to represent a child of under seven years.

Cremation X. The small amount of material from this site yielded charcoal and a few fragments of bone; the latter were too fragmentary to be identified with any particular bone.

APPENDIX IV

Report on Carbonized Wood by H. A. HYDE, *Esq., M.A., Keeper, Department of Botany, National Museum of Wales*

The eight separate batches of 'charcoal' submitted were examined with the following results:

1. *Cremation A.* This batch consisted of a number of small and very friable pieces of charcoal embedded in clay. Eight of the largest fragments, varying in size up to 1 cm. (measured tangentially) by 2 cm. (radially) by 1·8 cm. (longitudinally), were cut out and identified. All were oak (*Quercus Robur* L., sens. lat.), mostly of slow growth; one had eleven rings per radial centimetre.

2. *Cremation X.* A few pieces of charcoal only, mostly of very uneven growth and therefore incapable of affording a clean fracture for examination. The one fragment identified (1·2 cm. by 0·7 cm. by 2 cm.) represented some species of *Prunus*.

3. *Cremation B.* A large number of small charcoal fragments embedded in a clay matrix. Sizeable pieces (up to 2 cm. measured radially) were extracted with some difficulty: 21 were found to be hawthorn (presumably *Crataegus monogyna* Jacq.) and 2 oak.

4. *Cremation C.* Much broken-up charcoal mixed with clay and occasional bone fragments. The largest pieces of charcoal were examined and identified as follows:

Oak. (14 determinations.) Sizes varied between the following limits, 0·8–3·3 cm. by 1·5–3·4 cm. by 1·8–4·5 cm. The largest piece measured 3·3 cm. by 3·4 cm. by 4·5 cm. and its annual rings averaged 3·5 per radial centimetre. Other pieces contained rings varying from 0·3 cm. to 0·5 cm. wide, a rate of growth which contrasts sharply with that observed in the material from cremation A.

Hawthorn. (15.) Sizes varied thus: 0·3–1·8 cm. by 0·4–2·2 cm. by 1·3–5·2 cm.. Some fragments were very irregular in shape; nearly all were from mature wood, mostly from stems of a minimum diameter of 4 cm., no twigs being present.

Maple (*Acer campestre L.*). (3.) Maximum diameter 2·5 cm., length 3·2 cm.; all three mature wood.

5. *Cremation D.* About 120 fragments all similar in appearance and apparently parts of small stems, mainly 1–2 cm. across. Of 15 samples taken at random 12 were determined as hawthorn; the remaining three were discarded as incapable of yielding a satisfactory fracture.

6. *Cremation E.* 31 relatively large fragments ranging up to about 2·5 cm. by 3·5 cm. by 3·5 cm., all hawthorn.

7. *Cremation F.* 88 irregularly shaped pieces of charcoal measuring mostly 1–2 cm. only across. Of 23 pieces taken at random, 9 were identified as *Prunus* sp. and 5 as hawthorn, while 9 were rejected owing to their inability to afford a clean transverse fracture.

8. *Charcoal branch in soil above cairn.* This specimen had been collected as nearly as possible whole, though actually as received it consisted of a large number of discrete fragments of various sizes. The material was somewhat ill preserved: it gave a very bright fracture but, owing to flakiness, the area for observation in one piece was almost always small. Observations on both transverse and longitudinal surfaces showed the tree concerned to be lime (*Tilia* sp.).

SUMMARY. 125 identifications in all were made as follows:

	Oak	*Hawthorn*	*Maple*	*Prunus sp.*	*Lime*
1. Cremation A	11	—	—	—	—
2. „ A 1	—	—	—	1	—
3. „ B	2	21	—	—	—
4. „ C	14	15	3	—	—
5. „ D	—	12	—	—	—
6. „ E	—	31	—	—	—
7. „ F	—	5	—	9	—
8. Branch	—	—	—	—	1
Totals	27	84	3	10	1

The preponderance of shrubby species is very marked.

APPENDIX V

Geological observations by Dr. F. J. North, *F.G.S., Keeper, Department of Geology, National Museum of Wales*

The stones incorporated into the barrow were all derived from the Lower Lias limestone of the site, and there was nothing to suggest the introduction of any masses that were not made available by the excavation of the central pit and the ditch. Having been warned that there appeared to be archaeological problems related to the distribution of the earthy material, samples of 'soil' were collected from various parts of the barrow, and, for purposes of comparison, from a trench cut down to rock-level about twenty yards away from the barrow. The material from the latter was taken as representing the characteristic soil of the locality, undisturbed except as a result of agricultural operations.

Apart from slight differences in texture and in colour, and except for a thin ferruginous layer of limited distribution (to which reference will be made later) there was very little apparent variation in the whole of the material on the site and in the 'check' trench. The colour variation, which was largely related to the amount and condition of the iron compounds present in the soils, became even less marked when the material was dry, and in order to provide a standard for comparison, steps were taken to determine the mechanical constitution of the samples collected.

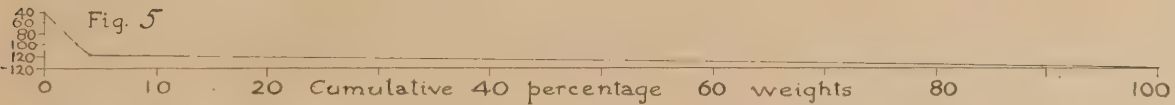


Fig. 5. Diagram illustrating the ideal constitution of the soil near the barrow, based upon the relative abundance of particles of various sizes

The following method was adopted: the soil samples were dried by exposure to the air of a well-ventilated room, and in order to ensure uniformity all the specimens were exposed under similar conditions during the same period (about a week).

A weighed quantity (5 grams) of each of the soils was boiled with strong hydrochloric acid. This removed certain soluble substances, including calcium carbonate and the oxides of iron, and the residue, after washing on a filter paper in a glass funnel, was dried and weighed.

The residues which were all closely similar in colour (pale shades of ashy grey), were then passed through a nest of sieves (40, 60, 80, 100, and 120 holes to the linear inch respectively) and the six fractions thus obtained were weighed and determined as percentages of the whole. In expressing these results graphically, the cumulative percentages by weight of the material above each of the sizes recognized were plotted against the sizes themselves. In the curves so obtained, the slope of any part of one of the lines is related to the proportion of material of a certain size; where the line is steeply inclined the proportion is small, and where it approaches the horizontal the proportion is considerable: also, since the curve is an index of the grain-size of the material, any one curve indicates material relatively coarser than that represented by a curve below, and relatively finer than that represented by a curve above.

The method adopted is admittedly crude, for it is impossible to avoid the loss of some of the material, but since it was not necessary, for the purpose in hand, to subject the various fractions to chemical analysis, the loss was not significant. It was confined to the very finest material that drifted away in the air when the sieves were emptied, and, belonging to the fraction too small to be retained on the 120 sieve, it is accounted for in the diagrams by adding to the – 120 grade the difference between the original weight of the residue concerned and the sum of the weights of the fractions obtained from it.

In every case, more than 85 per cent. of the material passed through the 120 sieve, so that the significant part of each curve was confined to the left-hand end, the remainder being, to all intents and purposes, a straight line making a very small angle with the horizontal. This is illustrated in fig. 5, which is based upon the calculated ideal composition of the soil, as described below, but in order to keep the diagrams within reasonable limits of size, and at the same time permit comparisons to be made, only the left-hand fifth of each actual curve has been included in figs. 6–9, namely, the part relating to the first 20 per cent. of the material. To complete the graphs the lines must be imagined as converging to a point on the base-line 200 cm. or approximately 79 in. away to the right.

The characteristics of the local soil

These were, as already indicated, revealed in a 'check' trench cut sufficiently far from the barrow to be regarded as yielding material not affected by its construction, but near enough to be within the same soil-region. Rock occurred at a depth varying from 18 in. to 2 ft. from the surface, and the bulk of the material above it was yellowish-brown loamy clay, crumbling into hard irregular fragments when dry; near the surface this merged into a greyish-brown and less coherent soil full of fibrous organic matter.

There were some small stones, very few in number, scattered throughout the mass; these were all either pieces of limestone, rounded as a result of solution, or fragments of chert, mostly bounded by flat sides (joint planes), and derived from thin impersistent beds or lenticles of that material that are known to occur locally in the Lias.

The subsoil rested directly upon limestone which displayed the characteristic hummocky surface that results from the solution of limestone by ground-water. Beneath the limestone, the topmost bed of which was about 6 in. thick, and separating it from another limestone bed, superficially less weathered, was a layer of stiff yellowish-brown clay, evidently the result of the decomposition *in situ* of the argillaceous material that locally alternates with the limestones of the Lower Lias.

It was obvious, from its thick weathered crust, that the limestone contained a good deal of non-calcareous impurity; this was isolated by treating a weighed quantity of the limestone with dilute hydrochloric acid, in order to dissolve the calcium carbonate, and an insoluble residue was obtained, amounting to about 10 per cent. of the whole. In three samples taken the lowest proportion of insoluble residue was 9·05 per cent. and the highest 12·2 per cent.

This residue was passed through the sieves, and, as the appropriate line (A) in fig. 6 shows, all but 2·2 per cent. passed through the 120 sieve, while none remained on the 40 sieve. In the coarser material, grains of quartz, some minute quartz crystals, and grains of the mineral beekite (a cryptocrystalline form of silica that often replaces the calcium carbonate of fossil shells in the Lias) could be recognized under a hand lens, while microscopical examination showed that the finer material consisted of essentially the same substances.

The curve illustrating the mechanical constitution of the clay (fig. 6 B) shows that all but 4·2 per cent. of the material passed through the 120 sieve, while a very small amount (0·06 per cent.) remained on the 40 sieve. The coarser material of the clay was essentially like that in the insoluble residue of the limestone, although the beekite was relatively more abundant.

It was evident from the field relations that most (if not all) of the subsoil had resulted from the decomposition, *in situ*, of the underlying rocks; the region was too level for material to have travelled by gravity from higher places, and there was no evidence of the presence of deposits of glacial origin. If any allochthonous material was present at all it can only have been sand grains left behind from strata more recent than the Lias that are known to have been laid down in the area, but since removed by denudation. An estimate was, therefore, made of the mechanical constitution of the 'ideal' soil likely to result from the decomposition of the limestone and clay that floored the site.

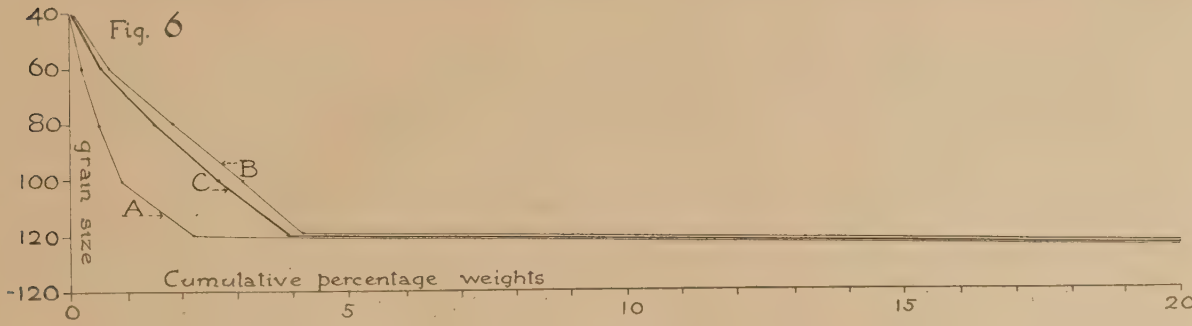


Fig. 6. Comparison (based upon the relative abundance of particles of various sizes) between (A) the insoluble residue of the limestone of the site, (B) the associated clay, and (C) the soil likely to have been derived from them. The line C is the one illustrated in its entirety in fig. 5

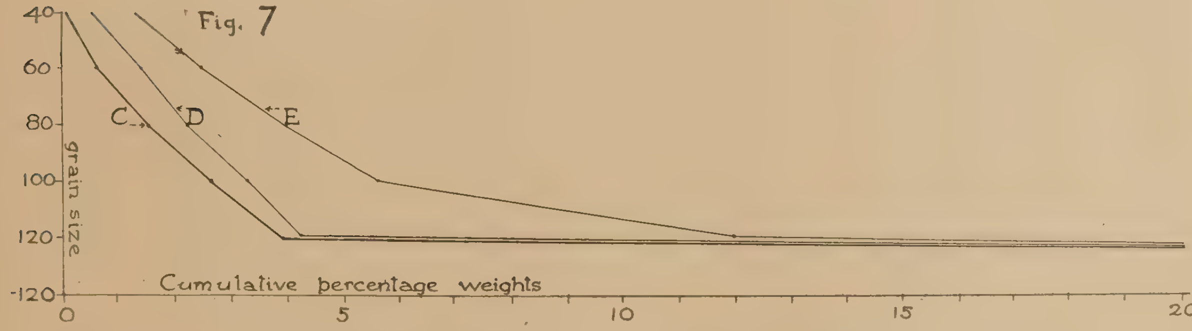


Fig. 7. Comparison between (C) the soil likely to have been derived from the local limestone and clay, (D) the subsoil in a check trench outside the barrow, and (E) the soil from the same trench

The limestone contained about one-tenth of its weight of insoluble residue, and the proportion of limestone to clay (or shale) in the local Liassic sequence is about 3 : 1; from this it follows that, taken as a whole, the limestone would have contributed three-tenths of a unit to every unit contributed by the clay. On this basis the curve for the average composition of the soil likely to have resulted from the decomposition of the rock hereabouts is given as (C) in fig. 6. In view of the relatively greater contribution of the clay, the 'ideal' soil would be somewhat richer in coarser material than the insoluble residue of the limestone, but the line expressing its composition would still show the sudden change in direction due to the presence of a high proportion of very fine-grained material.

Lines D and E (fig. 7) give the results of the examination of the actual subsoil material in the trench, and they are compared with c, representing the 'ideal soil', just discussed. Line d represents the average of three samples, from 6, 12, and 18 in. respectively above the rock-floor of the trench, and it will be seen that although there is a slightly greater proportion of coarser material (probably due to the presence of a little allochthonous material as suggested in a previous paragraph) in its general trend the line agrees with c sufficiently closely to suggest that the subsoil was formed *in situ*, from the rocks on which it rested.

The coarser material contained slightly larger fragments of chert than were isolated from the clay beneath. They ranged up to 2 mm. long, and their shapes showed that they resulted from the disintegration of larger pieces of chert like those present both in the clay and in the subsoil. The line e, relating to the soil of the turf layer at the top of the trench, indicates a material appreciably richer in the coarser ingredients than the clay, the limestone, or the subsoil represented by the line d. There is a slight increase in the proportion of each of the four coarsest grades of material separated, and a marked increase in the fifth (that passing through the 100 sieve and remaining on the 120), with the result that the proportion of the finest silt and clay is less, and the material as a whole is more evenly graded.

The constitution of the coarser material in the superficial layer was essentially like that from the lower zones in the trench, with the addition of some minute specks of coal; these, however, cannot be regarded as significant, since coal was often carried in farm-carts, and the dust may have been dropped anywhere that a farm-cart is likely to have gone.

One is entitled to infer that this superficial soil was derived from the same material as was the loamy clay beneath, and that the presence of relatively more of the coarser grades of material is principally due to the mechanical eluviation (the washing of the finest material down to the lower levels) which normally takes place in such circumstances.

This examination of the material obtained from outside the site provides certain standards to which we can refer the earthy materials of the barrow itself.

Material from the central (*original*) *barrow*

Line f (fig. 8) is based upon the average of three specimens collected from the soil in the central grave-pit of the barrow, and g upon the average of three from the soil exposed during the excavation between the pit and the rock-cut ditch to the north of it.

The material represented by these two lines contains the same assemblage of small stones (limestone and chert) that characterizes the soil from the nearby trench. Its mottled appearance (for it included patches resembling the raw clay between the limestone beds, as well as streaks of loamy clay and of less coherent ashy-brown soil) suggested that it was an heterogeneous assemblage of all the material included in the earthy elements of the site, with a preponderance of material from the subsoil layers. This is confirmed by the lines f and g, which show that it is essentially similar to the aggregate of that occurring in the local soil (line d) although, within the prescribed limits, the composition is variable.

In the light of the archaeological interpretation of the results of the excavation, this can be attributed to the fact that the heap was built up by the indiscriminate dumping of the products of excavation and surface-skimming.

Material from the outer (secondary) barrow

Specimens were taken at 6-in. vertical intervals from a section through the material of the secondary barrow, on its northern side. The material from the top of the section was, as line H (fig. 9) shows, when it is compared with E, essentially like the normal top-soil of the neighbourhood, but was rather richer in the coarser grains; the general assemblage of these, too, was similar to that recorded for the normal soil.

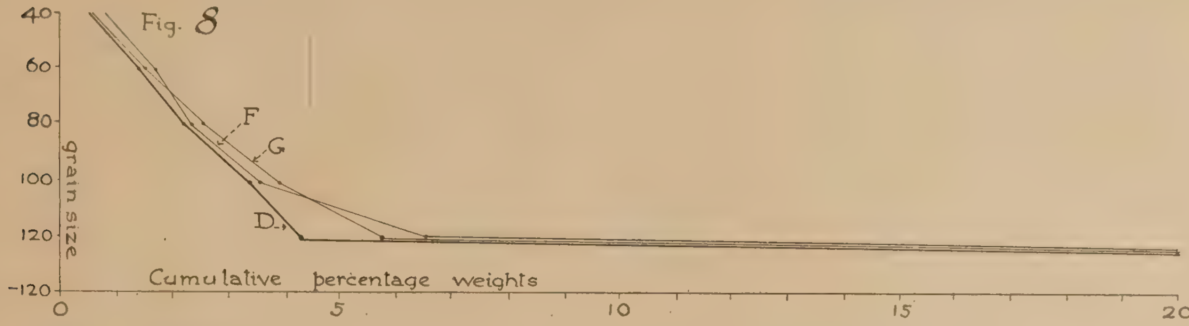


Fig. 8. Comparison between (D) the subsoil from the check trench, (F) the soil from the central grave pit, and (G) the soil between the pit and the ditch to the north of it

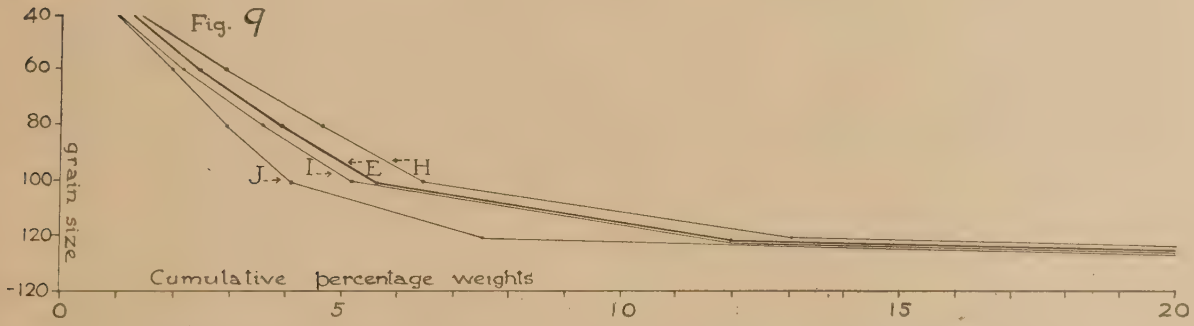


Fig. 9. Comparison between (E) the soil from the check trench, (H) the soil of the outer secondary barrow, (I) the material immediately above the iron-pan layer, and (J) the material below that layer

Line I records the average composition of two specimens taken above the ferruginous 'pan' layer indicated in the cross section RR′ (pl. XLV). It falls in with the general trend of the curves F and H and indicates a material that, although comparatively rich in the coarser grains, is a little less so than the normal soil. Comparison between lines H and I on the one hand and F and G on the other suggests that the material represented by the first two was derived mostly from the superficial soil layers like those represented by line E, and that there had been a certain amount of downward transport of the finer material, and concentration of the coarser material in the upper layers.

The average composition of three specimens from below the ferruginous layer is indicated by line J. In this zone the material was generally similar in appearance to that in the zone above the ferruginous layer, but there were more abundant patches and streaks of yellowish compact-looking material, and this, in conjunction with the grain-size analysis, suggests an association of superficial soil with subsoil and even with raw clay.

These slight differences between the material above and below the ferruginous layer are confirmed by an entirely different method of examination. The soil derived from the Lias contains, in certain areas, minute proportions of a compound of molybdenum, and Dr. A. H. Lewis of Imperial Chemical Industries Ltd., very kindly determined the molybdenum content of a series of specimens from this section of the barrow and from the 'check' section in the trench already described.

In the latter it was found that while there was only a trace of molybdenum in the limestone, the clay between the limestone beds contained fifteen parts per million, while in the loamy clay and soil above, the amount decreased as the surface was approached, being nine parts per million at a level 6 in. above the rock, eight parts at 12 in., and three parts at 18 in., that is, at the level of the superficial soil.

In the material below the ferruginous layer of the secondary barrow the proportions, in an ascending sequence, were 11, 8, and 11, and in the material above the layer, also in an ascending sequence, 5 and 9 parts per million respectively. This confirms the visual evidence and the evidence of grain-size, namely, that subsoil and even raw clay were incorporated into this part of the barrow, that the proportion of the two last named was rather greater in the lower zone than in the upper, and that the various kinds of material were placed indiscriminately on the ground.

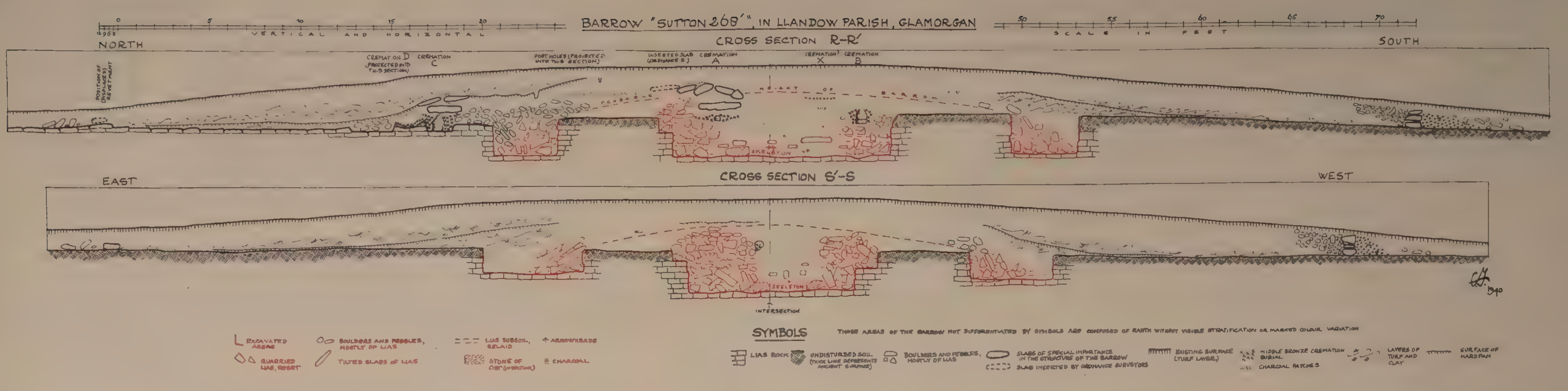
It would seem that while the secondary part of the barrow was built principally of the more superficial layers of the soil—the turf—the mound builders sometimes dug sufficiently deeply to reach the rock-floor, especially in the early stages of their work, and made no attempt to discard the non-turfy portions of what they excavated.

The ferruginous 'pan' layer

This consisted of a thin compact layer of orange-brown material, with a dark brown upper crust. There was no obvious difference in texture between the material immediately above and below it, but a conspicuous difference in colour; that above was much paler (an ashy grey) than that below, which was yellowish-brown, like the loamy clay in the 'check' trench. The orange-brown colour of the 'pan' layer is due to a local concentration of hydrated ferric oxide, mostly leached out of the soil above, which in consequence assumed a paler tint.

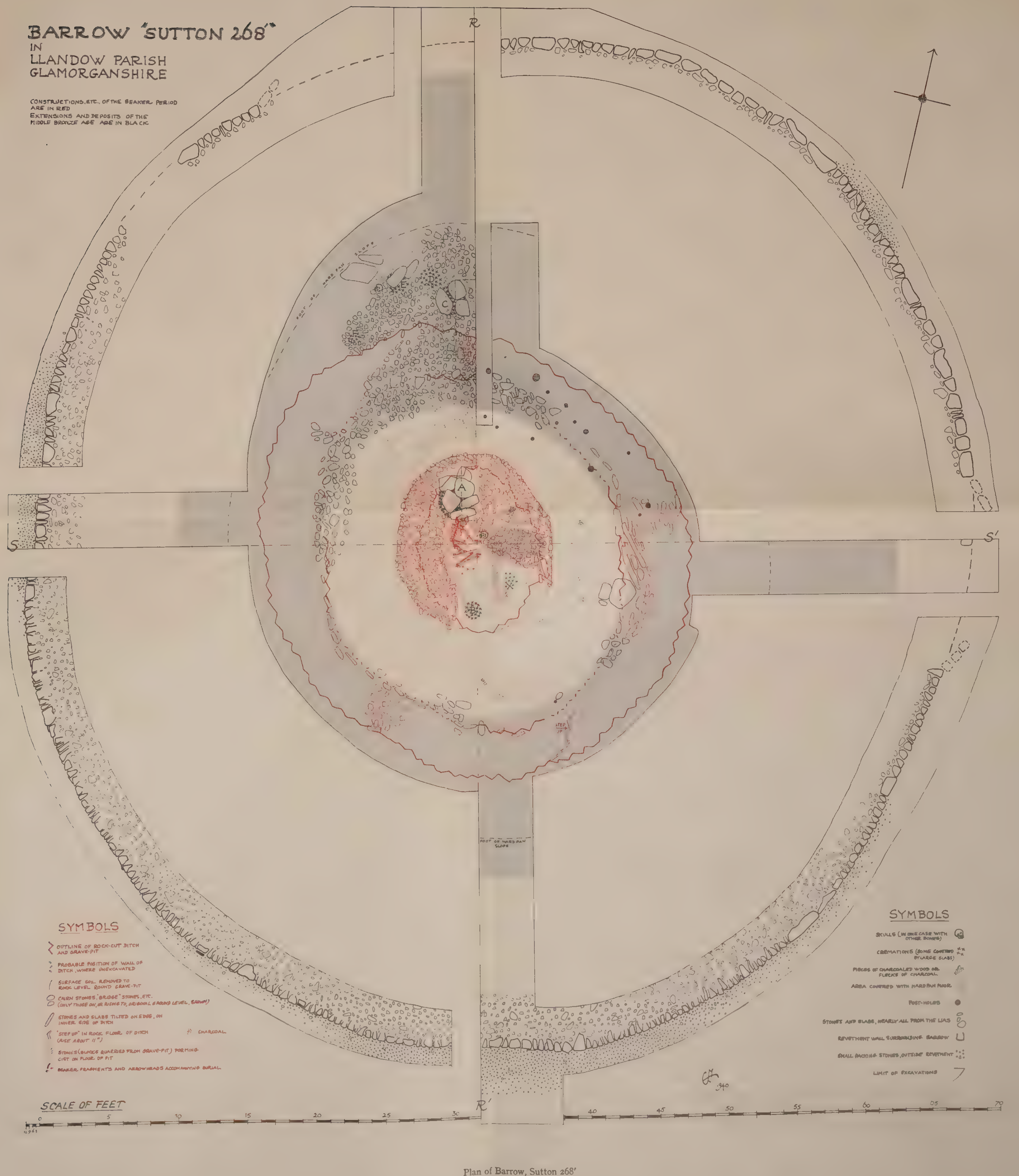
There was no *obvious* development of such a 'pan' layer in the loamy clay of the 'check' trench; such transference of soluble compounds as may have taken place in the soil and subsoil there exposed could only have been revealed by chemical analysis of the available colloidal material, and a reasonable explanation for the presence of so conspicuous an iron-enriched layer in the secondary material of the barrow is to be found in the relatively greater porosity arising from the presence of so much of the superficial soil and the consequent greater facility for the downward percolation of water.

It may be safely assumed that the development of the 'pan' formation was related to the restriction of free drainage at a certain level in the mass. Such restriction could have arisen from either of three main causes: (i) because the downward movement of fine material had given rise to a relatively compact zone some distance beneath the surface, (ii) because the material below the pan was substantially different from that above it, or (iii) because the surface of the material below the 'pan' had been rendered compact and


BARROW "SUTTON 268'", IN LLANDOW PARISH, GLAMORGAN
VERTICAL AND HORIZONTAL
SCALE IN FEET
0
5
10
15
20
50
55
60
65
70
NORTH
SOUTH
CROSS SECTION R-R'
POSITION OF (DISPLACED) REVETMENT
CREMATION D (PROJECTED INTO THIS SECTION)
CREMATION C
POST HOLES (PROJECTED INTO THIS SECTION)
INSERTED SLAB (ORDNANCE S.)
CREMATION A
CREMATION X
CREMATION B
HEIGHT OF BARROW
SKELETON
EAST
WEST
CROSS SECTION S'-S
SKELETON
INTERSECTION
EXCAVATED AREAS
QUARRIED LIAS, RESET
BOULDERS AND PEBBLES, MOSTLY OF LIAS
TILTED SLABS OF LIAS
LIAS SUBSOIL, RELAID
STONE OF CIST (INSECTION)
ARROWHEADS
CHARCOAL
SYMBOLS
THOSE AREAS OF THE BARROW NOT DIFFERENTIATED BY SYMBOLS ARE COMPOSED OF EARTH WITHOUT VISIBLE STRATIFICATION OR MARKED COLOUR VARIATION
LIAS ROCK
UNDISTURBED SOIL (THICK LINE REPRESENTS ANCIENT SURFACE)
BOULDERS AND PEBBLES, MOSTLY OF LIAS
SLABS OF SPECIAL IMPORTANCE IN THE STRUCTURE OF THE BARROW
SLAB INSERTED BY ORDNANCE SURVEYORS
EXISTING SURFACE (TURF LAYER)
MIDDLE BRONZE CREMATION BURIAL
CHARCOAL PATCHES
LAYERS OF TURF AND CLAY
SURFACE OF HARD PAN
CF 1940

Sections of Barrow, Sutton 268'

Plate XLIV


BARROW "SUTTON 268'"
IN
LLANDOW PARISH
GLAMORGANSHIRE
CONSTRUCTIONS, ETC. OF THE BEAKER PERIOD ARE IN RED
EXTENSIONS AND DEPOSITS OF THE MIDDLE BRONZE AGE ARE IN BLACK
R
R'
S
S'
A
C
D
FOOT OF HARD PAN SLOPE
SYMBOLS
OUTLINE OF ROCK-CUT DITCH AND GRAVE-PIT
PROBABLE POSITION OF WALL OF DITCH, WHERE UNEXCAVATED
SURFACE SOIL REMOVED TO ROCK LEVEL ROUND GRAVE-PIT
CAIRN STONES, "BRIDGE" STONES, ETC. (ONLY THOSE ON, OR RISING TO, ORIGINAL GROUND LEVEL, SHOWN)
STONES AND SLABS TILTED ON EDGE, ON INNER SIDE OF DITCH
"STEP UP" IN ROCK FLOOR OF DITCH (RISE ABOUT 11")
CHARCOAL
STONES (BLOCKS QUARRIED FROM GRAVE-PIT) FORMING CIST ON FLOOR OF PIT
BEAKER FRAGMENTS AND ARROWHEADS ACCOMPANYING BURIAL
SYMBOLS
SKULLS (IN ONE CASE WITH OTHER BONES)
CREMATIONS (SOME COVERED BY LARGE SLABS)
PIECES OF CHARCOALED WOOD OR FLECKS OF CHARCOAL
AREA COVERED WITH HARD PAN FLOOR
POST-HOLES
STONES AND SLABS, NEARLY ALL FROM THE LIAS
REVETMENT WALL SURROUNDING BARROW
SMALL PACKING STONES, OUTSIDE REVETMENT
LIMIT OF EXCAVATIONS
SCALE OF FEET
0
5
10
15
20
25
30
40
45
50
55
60
65
70
CF 1940

Plan of Barrow, Sutton 268'

Archaeologia, Volume 89, published by the Society of Antiquaries of London. 1943

less pervious to water, as a result of some treatment it had received before the superincumbent material was placed upon it.

In the present case the first alternative can be ruled out because (as the northern end of the section RR′ indicates) the profile of the pan is related to the material below, rather than to the contours of the completed barrow, as would have been the case had it resulted from the development of a compact layer due to downward movement of the finest particles in the soil.

As to the second alternative: we have seen that there are slight differences between the average composition of the materials above and below the pan, but these differences do not appear to be great enough or their limits sufficiently sharply defined to have initiated the development of so definite a layer of iron-enriched material.

It seems therefore that the third alternative is the most likely one, namely, that at a time when the profile of the mound approximated to what is now the course of the layer of pan, something happened to diminish the pore-space of the material at its surface; this is another way of saying that the conditions which ultimately gave rise to the formation of the 'pan' were created *during* the erection of the mound. These conditions *could* have resulted from the puddling (as by trampling) of what was, for a time, the surface material of the mound: this appears, indeed, to be the only way of explaining the distribution of the ferruginous layer.

The central portion of the barrow had been fully exposed when the geological examination was made, so that it is not possible to refer in this appendix to the small area of 'pan' overlying the central pit.

APPENDIX VI

A LIST OF 'OVERHANGING-RIM' VESSELS WITH DATABLE ASSOCIATIONS IN SOUTHERN BRITAIN

Site	References[1]	*Abercromby's classification*	*Height of urn*	*Character of burial*	*Associations*					
					Bronze	*Gold*	*Faience*	*Other beads*	*Other objects*	*Comments*
Hengistbury, Hants	Piggott 23 A; *Soc. Ant. Rep.*, no. III, p. 16 and pl. II	Type I, phase i[2]	13 in.	Cremation in barrow	—	Studs, gold cones	—	Amber	Incense cup. Amber and bronze halberd amulet	The associated objects were in the urn with the burnt bones of an adult.
Tynings East, Som.	Piggott 28; *Proc. Spel. Soc.*, i, pl. XI, 3 and p. 143 ff.	Type I, phase i[3]	12¼ in.	Cremation (secondary) in barrow	Awl	—	Segmented beads	Jet	—	The associated objects were below the inverted urn with the burnt bones of an adult and child.
Upton Lovel, Wilts.	Piggott 81; Abercromby, pl. LXII, 2; *Devizes Mus. Cat.*, i, no. 62	Type I, phase i	6 in.	Cremation in barrow	Dagger, awl	Boxes, cones, plate, buttons	—	Amber	Grape-cup	The 'little urn was inside a larger urn'. Both were 'near the ashes'. They were 'food vessels', not cineraries.
Normanton, Wilts.	Piggott 72 and fig. 21; *Devizes Mus. Cat.*, i, no. 280	Type I, phase ii[4]	8½ in.	Inhumation in bell-barrow	—	Beads	—	Amber, encrinites	Grape-cup. Double-axe amulet	
Stockbridge Down, Hants	Stone and Hill; *Antiq. Journ.* (1940), pp. 39–51 and pl. III	Type I, phase ii[5]	16 in.	Cremation (secondary) in barrow	Awl	—	Segmented beads	Calcite, jet, lignite	—	The associated objects were in the urn with the burnt bones of a child.
Bloxworth Down, Dorset	Piggott 5; *Arch.*, lxxxv, p. 216, fig. 1, 6	Type I, phase iii[6]	20 in.	Cremation in disc-barrow	—	—	Segmented beads	Amber	Bone tweezers	
Oxsettle Bottom, Sussex	Beck and Stone 12, and fig. 1, 9	Type I, phase iii[7]	Not less than 16 in.	Cremation beside inhumation in barrow	Extensible finger ring	—	Segmented beads, pendant	Jet, amber	Umbo of jet	The associated objects were in the urn with the burnt bones.
Easton Down, Wilts.	Piggott 58; *Arch.*, lxxxv, p. 216, fig. 1, 7, and p. 242; *Wilts. Arch. Mag.*, xlvi, 218	Type I, phase iii[8]	12¾ in.	Cremation: urnfield	—	—	Segmented bead	Amber, lignite	Bone pin	The associated objects were in the urn with the burnt bones of a child.

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[1] The chief references are to Mr. Stuart Piggott's List in *Proc. Prehist. Soc.* (1938), pp. 102 ff., and Messrs. Beck and Stone's List in *Arch.*, lxxxv, pp. 234 ff.

[2] As Abercromby, ii, pl. LXIII, 17, 18.

[3] *Ibid.*, as pl. LXIII, 13.

[4] *Ibid.*, as pl. LXIV, 36.

[5] *Ibid.*, as pl. LXIV, 29.

[6] Type specimen: Abercromby, ii, pl. LXV, 49.

[7] See Abercromby's comments, ii, pp. 27 and 68.

[8] As Abercromby, ii, pl. LXV, 50.

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  Crests and mantling on, 5–7, 16–18 (pls.).

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